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TABLE OF CONTENTS.

	PAGE.
Editorial:	
The Blended Rubber from Pará.....	361
"Similia Similibus Curantur".....	362
Minor Editorial.....	362
The General Rubber Company	364
[With Portrait of William M. Ivins.]	
A New Source of Amazon Rubber	365
The "Guayule" Rubber Plant—II.....	367
[Methods of Extraction—Productive Capacity.]	
Drawbacks of the Rubber Trade	369
The Rubber Factories of Japan	370
Jottings by an American in Europe—III.....	371
[A Great Rubber Factory in France.]	
The India-Rubber Trade in Great Britain. Our Regular Correspondent	373
[State of Trade. A Pneumatic Tire Development. New Rubber Scrap Machine. Uses for Old Rubber. The Red Rubber Scarer. New Flotations. The Decline of Barter. The Swedish Rubber Trade. The Golf Ball Trial. New Workhouse Task. Waterproof Trade in Canada. Devulcanizing Patents. New Firm.]	
New Goods and Specialties in Rubber	375
[The Barker Massage Machine. A Serviceable Ice Creeper. A New Tire Fastening. Duff's Ring Grip for Golf Boots, The "Sure Foot" Rubber Horseshoe. The "Wedge Lap" Robe for Automobilists. The Arctic Tongue Shield.]	
[With 7 Illustrations.]	
Progress in Rubber Planting	377
[Ceylon, Java, Mexico.]	
Recent Rubber Patents	378
[United States. Great Britain. France, Germany.]	
Summer Outing of the New England Rubber Club	381
[With 1 Illustration.]	
Rubber Interests in Europe	383
[Increase in Capital of the "Continental." Dunlop Tyre Reorganization. New Flotations.]	
Views of Mr. E. V. Carey	384
[Rubber Men in America. The Market for Cultivated Rubber.]	
Obituary	385
[With Portrait of Amasa A. Marks.]	
Miscellaneous:	
The Ubero Planting Companies.....	382
Making Gutta-Percha from Leaves.....	383
New Trade Publications.....	383
The New Consular Reports.....	383
Cuban Imports of Rubber Goods.....	384
India-rubber Goods in Commerce.....	374
Machine for Grinding Rubber Tiling (Illustrated).....	376
Bukit Rajah Rubber Co., Limited.....	376
Combination of Rubber and Metal.....	380
Form for Seamless Rubber Goods.....	380
"Thermalite" in Germany.....	385
News of the American Rubber Trade	386
[With 1 Illustration.]	
Review of the Crude Rubber Trade	390

THE BLENDED RUBBER FROM PARÁ.

THE popular supposition, or more accurately, belief, that "Pará rubber," fine and coarse, is the product solely of trees of the *Hevea* species, is likely to receive a rude shock when the results of the investigations of Professor Henri Jumelle and Dr. Jacques Huber, discussed by Mr. Consul Aymé on another page this month, become better known.

The discovery that there may be and probably is but little really pure Pará rubber (that is, *Hevea* Pará), but that what the manufacturers have been receiving is made from the mixture of the *latices* of the *Heveas* and a *Sapium*, leads to many interesting speculations. The valuation of Amazonian rubber heretofore has been based very largely upon its dryness, but even then there were not wanting manufacturers to accept or reject certain lots because their experience had taught them that certain physical qualities point to difference in value for specific uses. There have been those, too, who have claimed that the introduction of *farinha* flour by the rubber gatherer has decidedly injured certain lots.

At the same time, in the face of any such adulteration as that just mentioned, and in spite of the fact that much of the Pará rubber now appears to be the product of a blend, that rubber stands to-day as the unit of value in crude rubber measurement. The question that naturally arises, therefore, is this: Does such a blend produce a better quality of rubber than if the product were wholly from the *Hevea Brasiliensis* or from the *Sapium acuparium*?

A careful reading of Dr. Huber's report leaves this point indeterminate, the evidence leaning, however, slightly in the direction of a conclusion that smoked rubber from the *Sapium* would show less tensile strength than smoked rubber from *Hevea*. Nor can any particular light be thrown on this interesting subject by the rubber gatherers themselves, who don't know and don't care to know about such differences, or by the white men employed in rubber houses up the Amazon, whose interests do not touch investigation of this sort.

In this connection, it is possible that the belief that the lack of tensile strength in the Pará rubber from the Far East comes from the immaturity of the trees or the method of coagulating may be misleading. It may be that the mixture of the *latex* of the *Sapium* with that *latex* would produce an exact replica of Amazonian Pará. Further than this, Dr. Huber's communication opens up a field for valuable experiment in the blending of the *latices* of the *Castilloa*, the *Ficus*, the *Manihot*, and many others that would undoubtedly produce interesting results and possibly new grades of rubber of varying values.

It must not be thought that it is only up the Amazon that the *latex* of various rubber producers is mixed. It is a well known fact that the *latices* of various kinds of *Landolphia* are mixed together by the natives, and that the product is not nearly as good as if they were coagulated separately. This, however, is because different kinds need different methods of coagulation, and it is probable that if the coagulation were done by a centrifugal, it would be as

good or even better than any one of the sorts coagulated by native methods. It is true that the *latex* of certain *Landolphia*s is worthless from the rubber standpoint, and that its incorporation with that of the valuable species tends to depreciate the value of the resulting product.

Taken as a business proposition, however, the blending of two or more kinds of *latex* by the irresponsible native gatherer is not to be encouraged, for it opens the door to further adulteration, and even if that were absent and the work done honestly, too much blundering and a decided lack of symmetry is the result. It would be infinitely better for the manufacturer to receive the rubber from each tree separately and do his own blending on the mixing mill.

It is to be hoped that experts the world over will appreciate the importance of Dr. Huber's discovery and that the *latex* of the *Sapium acuparium* will at once receive the attention that the *latices* of other rubber producers have received, and that above all we may know very soon the resin contents of the product of this interesting tree.

Incidentally this discovery contains in it a most important argument in favor of rubber cultivation, for who could for a moment imagine, if the Amazonian product had come from cultivated trees, that the planters could for years have been blending the *latex* of two different sorts in any proportion that suited a vagrant fancy, and neither the manufacturer of rubber goods, nor the student of the subject, be a particle the wiser.

"SIMILIA SIMILIBUS CURANTUR."

"LIKE cures like," the homeopaths say, but the text is very far from enthusiastic acceptance by the rubber trade. Particularly is it controverted in the brands on special goods, and when it comes to the naming of companies, instead of relieving local irritation it induces fever, restlessness and in extreme cases brings on fits—of anger. Looking backward an instance in point was the branding of "Boston Rubber Co." on rubber shoes, which greatly stirred the Boston Rubber Shoe Co., who had never been able to impress the word *shoe* upon the whole trade. Later came a mechanical concern that took the name "Akron India-Rubber Works" and at once, so it is said, gathered in much mail intended for The B. F. Goodrich Co., who for a long time operated the only "rubber works" in the city of Akron. And now comes a protest and a court decision concerning the names Eureka Fire Hose Co. and Eureka Rubber Manufacturing Co.

Without entering at all into the motives that may lead one concern to choose a name that may be confused with that of a competitor, or rather allowing that the similarity is wholly accidental, it would seem to be fair for those committing such unintentional trespass to rectify their mistake as soon as discovered. A good trade name is a valued possession, and its owner is naturally most jealous of its use. It is quite likely that very little actual harm comes from the one who appears to appropriate it. But it induces bitterness and often lawsuits that are far from friendly. Would it not be good business for those who

are charged with such trespass to select a new name, and say why they did it, and thus get a measure of advertising that otherwise would not have come their way? Of course, "business is business" and "war begets war," but it would seem as if there might be some easy way out of the confusion and suits that grow out of a similarity in firm naming.

THE COTTON CROP WILL BE SHORT this year, unless all signs fail. It is agreed that the acreage planted is below that of last year, and a bad condition of the crop is reported from many localities. Of course the extent of the yield cannot be forecasted with accuracy, but the rubber manufacturer will make a mistake who regards as a possibility a crop equal to last year's.

THE HOT WATER BOTTLE HAS BEEN "MENACED" in Europe much longer than in America by the bag heated with crystalline salts. It is interesting, therefore, to note that the parent company, after a bad year's business, regard it as a "fortunate occurrence" (*glückliches Ereignis*) that, after much effort, they were able to sell the American patents for \$40,000. They seem to have succeeded better in selling patents than in selling bags.

IT SHOULD ENCOURAGE RUBBER PLANTERS everywhere to note the development of the rubber manufacturing industry, as indicated by the recent increase of capital of many important concerns, reported elsewhere in this paper. These increases, it may be added, may be accepted as substantial, and not a mere addition to capital on paper; the public is not being asked to buy any shares.

THE SECRET OF MAKING RUBBER has been discovered again, this time by a surgeon and a chemist in Michigan, according to newspaper reports. "Success has been attained after five years of experimenting," the story reads. But the secret is not to be made public, because its discoverers are going to organize a company. But this may be for the general good—the field remains open for an unlimited number of others to discover the wonderful secret and organize companies, with a possibility of selling shares of stock even if they should never arrive at the point of having rubber to sell.

THE UBERO PLANTING COMPANIES.

THE report of the receivers for the *Ubero Plantation Co. of Boston*, filed in June, was mentioned in the last INDIA RUBBER WORLD (page 355). The receivers petitioned for authority (1) to sell the property involved and (2) to employ counsel for the purpose of bringing suit for the benefit of the corporation against any of its officers or other persons who may have failed in their duty toward investors in the company. An order of the United States court gave notice to all concerned to appear on July 20 to show cause why this petition should not be granted, and after a hearing on that date a decree was entered, authorizing the sale after 60 days and empowering the receivers forthwith to employ counsel and bring suit.

The same persons as receivers for the *Consolidated Ubero Plantations Co.* filed their report in the United States court at Boston on July 14. The character of the report is much the same as that of the first report filed, in that gross mismanagement is charged, and that the greater part of the money of the investors appears to have been diverted to improper uses. The amount of money shown by the books to have been received

from investors was \$713,285, and the expenditures \$710,998.69, of which only \$104,834.10 is charged to "plantation account." After reciting the juggling of the funds between various corporations formed by William D. Owen, the receivers say that there were "practically no other parties in interest in all this series of transactions than Mr. Owen, his family, and his friends." The receivers request that they be allowed to employ counsel to consider the advisability of taking legal proceedings for the benefit of the stockholders.

At a meeting of stockholders of the *Uvero Plantation Co. of Boston* (Boston, July 11) those present adopted the recommendations of a committee on reorganization previously appointed, and 21 persons entered their subscriptions for new stock, becoming responsible for about \$3000. At the hearing before the United States court on July 20, referred to above, counsel representing some of the investors urged a postponement of any order by the court for the reason that an attempt at reorganization was being made and that action by the court might have the effect of discouraging such reorganization.

Friends of William D. Owen during the month have disseminated reports from Indiana to the effect that Owen has been in Europe only in an effort to recover his health, and that for sometime past he has been at Bad Nauheim, Germany, in a prostrated condition and "wholly ignorant of the conditions that have arisen concerning his ambitious projects."

MAKING GUTTA-PERCHA FROM LEAVES.

THE following details regarding the *Nederlandsche Gutta-Percha Maatschappij* (Dutch Gutta-Percha Co.) are derived from *De Indische Mercuur*:

The profit and loss account of the company for 1904 shows that after deducting various amounts, aggregating 18,596 guilders, for the sinking funds, the net profits for 1904 will reach 63,175 guilders [= \$25,396.35]. The balance of loss for the year ending December 31, 1903 amounting to 69,033 guilders, will consequently not be entirely covered, and the company's accounts on December 31, 1904, therefore show a loss of 5858 guilders. In their report, the directors state that they were greatly disappointed by the almost complete stagnation in the cable manufacturing industry, on which the Gutta-percha trade largely depends, the business of the company having seriously suffered in consequence. They say that if, during the second half of the year, the company had been able to sell an equal amount of Gutta-percha to that sold during the first half of 1904, the gross profits would undoubtedly have been large enough, not only to make important contributions to the sinking funds, in accordance with the provisions of the by laws, but likewise to leave a surplus to be divided among the stockholders as a dividend. The prospects for the current year cannot as yet be predicted with certainty. Should the cable industry revive, and should it become possible to find a larger outlet for the product in other branches of industry than has heretofore been obtained, there need be no serious fears for the future. If the reports received concerning these matters are well founded, a renewed and larger demand for the company's Gutta-percha may soon be confidently expected. [For the last preceding report, see *THE INDIA RUBBER WORLD* July 1, 1904, page 345].

CANADIAN GOLF BALLS.—The Canadian government's commercial agent at Melbourne reports that Canadian golf balls have found much favor among expert players in Australia. They have not long been introduced, but a large and increasing sale is reported already.

NEW TRADE PUBLICATIONS.

UNDER the title "Goodrich Rubber Sundries" *THE B. F. GOODRICH CO.* (Akron, Ohio) have just issued a very comprehensive catalogue of goods specified to be "For the Druggist, Surgeon, Stationer, Dentist, Embalmer, Photographer, and Sporting Goods Dealer," which embraces not a few items not to be found in other catalogues and a considerable number which are protected by patents and thus kept within control of the company named. The catalogue embodies most of the contents of the publication from the same house in the summer of 1903, "The Newer Rubber Surgical Specialties." It is attractively gotten up and the illustrations are particularly effective. [5¼" × 8½". 84 pages.]

THE MASON REGULATOR CO. (Boston) issue a booklet relating to Mason Reducing Valves which cannot fail to be of interest to steam users, whether they have or have not adopted the Mason valve in their practice. The object of the Mason valve is to maintain an even surface of steam, regardless of the variation of the initial pressure or of the volume of steam required. It automatically reduces boiler pressure for steam heating systems of all types (vacuum included), and in all situations where it is desirable to use a lower pressure than that on the boiler. The same system is adaptable to water and air, no less than to steam. The Mason appliances have been in successful use for nearly a quarter of a century, during which time they have become known all around the world. [6" × 9¼". 56 pages.]

ALSO RECEIVED.

Eberhard Faber, No. 545 Pearl street, New York.—Illustrated Price List. [Lead pencils, penholders, rubber bands, erasers, etc.] 102 pages.

Westcott Chuck Co., Oneida, New York.—Catalogue of Westcott's Patent Lathe Chucks and Little Giant Drill Chucks. Catalogue A. 32 pages.

The Hygeia Nursing Bottle Co., Buffalo, New York.—The Hygeia Nurser. 8 pages.

The Williams Foundry and Machine Co., Akron, Ohio.—Williams Patent Cooling Chamber Attachment for White's Steam Tire Vulcanizers. 4 pages.

The Faultless Rubber Co., Akron, Ohio.—Faultless Rubber Sponges 6 pages.

Bourn Rubber Co., Providence, Rhode Island.—Price List of Rubber Covered Wires. 4 pages.

The Diamond Rubber Co., Akron, Ohio.—Diamond Wrapped Tread Tires and World's Records. 8 pages.

The Springfield Elastic Tread Co., Springfield, Ohio.—Easy Walker Rubber Heels. 12 pages.

The Thermalite Co., New York.—The Thermalite Bag. 12 pages.

THE NEW CONSULAR REPORTS.

THE American manufacturer or merchant who is in any way interested in foreign trade has more reason, year after year, to feel interested in the consular reports issued from Washington. Despite the criticisms which may always be heard of the American consular service, its system of collecting and distributing commercial intelligence is winning encomiums from competent observers in many other countries. The occasion for this paragraph is a recent change in the form and a general improvement of the official publication, which is now issued daily under the title *Daily Consular and Trade Reports*, for gratuitous distribution from the Bureau of Manufactures, Department of Commerce and Labor, Washington, D. C., and we commend to the rubber trade a careful examination of these reports, with a view to making them of use.

THE GENERAL RUBBER COMPANY.

THE General Rubber Co., incorporated under New Jersey laws in March, 1904, with \$2,000,000 capital authorized (of which \$1,000,000 is stated to have been paid in at the beginning), was formed for the purpose of organizing a system of imports of crude rubber for the United States Rubber Co. direct from the primary markets. Subsequently the capital of the company was increased to \$3,000,000. Early in July of this year it was announced that the company had made an issue of \$9,000,000 in ten year 4½ per cent. debenture bonds to a syndicate of New York bankers headed by the First National Bank, making the total capitalization of the company \$12,000,000.

The General Rubber Co. will now have within its scope the supplying with crude rubber of the factories not only of the United States Rubber Co. but of the Rubber Goods Manufacturing Co. (lately merged with it), and, a Boston report has it, another important consuming interest. During the past year the General Rubber Co. has established purchasing agencies for rubber at Pará and Manáos, in connection with which arrangement occurred the expedition of Commodore Benedict on the yacht *Virginia* in the latter part of 1904.

It is understood that the presence of two important officials of the company in Europe at this time has a relation to the establishment of agencies for the more direct importation of various grades of rubber other than Pará, grades which enter more largely into the production of mechanical rubber goods than of footwear. The officers of the company today are as follows: William M. Ivins, president; Lester Leland and Samuel P. Colt, vice presidents; John J. Watson, Jr., treasurer; with the following additional directors: E. C. Benedict, Charles H. Dale, James Bishop Ford, Walter S. Ballou, and Anthony N. Brady.

The president of the General Rubber Co., Mr. William Mills Ivins, of whom a portrait is presented herewith, has had a much more intimate connection with rubber interests than may be generally known. This began in the days when Mr. Ivins was not only a close personal friend but the legal adviser of the late William R. Grace, who during the larger part of his life had important business interests in South America and for a number of years was an importer of crude rubber at New York to an important degree. Later Mr. Ivins, who during his whole career has been a member of the bar, turned his attention seriously to corporation law, in connection with which he became acquainted with Mr. Charles R. Flint, who was active in the organization of both the United States Rubber Co. and the Rubber Goods Manufacturing Co. In the early years of the latter Mr. Ivins was a member of the board of directors, one of the few instances of his sustaining this relation to any business organization, no matter how important his connection with various corporations may have been in the capacity of legal adviser.

Mr. Ivins, who is now in his fifty-fifth year, was born at Fredonia, New Jersey, being descended from Isaac Ivins, an English gentleman who settled in that state in 1711. It was in his first year that his family removed to Brooklyn, since which time he has lived continuously either in that borough or in Manhattan, New York. He was graduated from Adelphi Acad-

emy (now Adelphi College), Brooklyn, and took the degree of LL.B. at Columbia College in 1873. In the same year he became a member of the law firm of Bergen & Ivins (later Bergen, Ivins & Bergen), of Brooklyn, who were employed principally as counsel for the surface railway companies.

Mr. Ivins in 1876 was one of the organizers of a successful movement against the so called "Brooklyn ring." He was a member of the original executive committee of the State Bar Association of New York. He was major and judge advocate of the second division of the National Guard, State of New York. January 1, 1885, he was appointed judge advocate general of the state. In 1883 he was appointed one of the school commissioners of the city of New York. While city chamberlain (1885-89) he made a special study of the conditions of municipal government in the cities of the United States and Europe, and later prepared the most elaborate report of its kind for the investigation of conditions in New York city made by the so-called "Fassett committee," appointed by the state legislature.

Mr. Ivins was one of the organizers of the Reform Club and the Commonwealth Club in New York city, and as a member of the latter began the agitation for the adoption in the United States of the Australian ballot law, and made the original draft of the ballot laws of several of the states. In 1887 he published a book, "Money in Politics." Mr. Ivins was retained by the government of Brazil in the matter of the Misiones boundary dispute with Argentina, which was finally decided by in favor of Brazil by Mr. Cleveland, president of the United States. Later he was retained by the government of President Balmaceda, against which the Chilean navy had at that time revolted.

Since 1892 Mr. Ivins has devoted himself closely to his profession and is at present a member of the firm of Ivins, Kidder & Melcher. He is a member of the Players', Grolier, Lawyers', and Reform Clubs, and the Liederkrantz Society, all in New York.

Mr. Ivins's qualifications for the position of president of this important rubber company will be seen in his comprehensive

experience in corporation law, success in which practice to-day involves executive capacity; administrative ability, as evinced in his tenure of public office; his personal knowledge of South American affairs; and his connections with rubber interests for years as above indicated. Mr. Ivins accompanied Commodore Benedict to the Amazon, and he is now with Colonel Colt in Europe on the business of the rubber company.

CUBAN IMPORTS OF RUBBER GOODS.

THE official statement of values of rubber goods imported during the past two fiscal years, which appeared in THE INDIA RUBBER WORLD of July 1 (page 334) failed to include rubber hose. The complete statement is as follows:

	1902-03.	1903-04.
Hose.....	\$ 1,516	\$ 1,148
* All other.....	51,358	48,125
Total.....	\$52,874	\$49,273

[* The figures we published last month.]

The imports of hose are credited to the United States with the exception of \$30 worth (from Spain) in 1902-03.



WILLIAM MILLS IVINS.

[From King's "Notable New Yorkers."]

A NEW SOURCE OF AMAZON RUBBER.

By Louis H. Aymé, United States Consul at Pará.*

THE India-rubber exported from Pará has been traced to four main sources: India-rubber proper from the *Hevea Brasiliensis*; "caucho" from the *Castilloa elastica* or a closely allied species, *Castilloa Ulei*; "manicoba" from the *Manihot Glaziovii*, and "mangabeira" from the *Hancornia speciosa*.

It has long been known that the latex of other trees is sometimes mixed with the latex of the *Hevea*, giving inferior products more or less readily recognizable. But from the last bulletin of the state museum (Museu Goeldi) it appears that a very considerable part of the India-rubber of commerce known as "fine Pará," and which has always been supposed to be the exclusive product of the *Hevea Brasiliensis*, is really from a new and hitherto unsuspected source, a tree of the genus *Sapium*, of the family of the *Euphorbiaceae*. The honor of this discovery rests with Professor Henri Jumelle, who learned his facts from a Mr. Bonnechaux, a French explorer, and published a long account thereof in 1903. Dr. J. Huber, the eminent botanist of the Museu Goeldi (Pará), who has personally explored the Amazon, even in its remote headwaters, has succeeded in identifying the tree, and has written a most interesting report, in which he includes Professor Jumelle's article, and which I have translated *in extenso* as an appendix to this report. I have also had several interviews with Dr. Huber, and have examined the two small specimens of pure "tapurú" rubber, and also the many growing trees of *Sapium* in the botanic gardens.

Dr. Huber has also been kind enough to furnish me with a number of specimens of the leaves of several varieties of *Sapium*, together with a letter in which he refers to an entirely new tree, the "Burra leitera." These specimens and a copy and translation of Dr. Huber's letter are sent with this report.

The new source of rubber appears to have been precisely identified by Dr. Huber as *Sapium aucuparium* (Jacquin). The tree bears many native names—"tapurú," "murupita," "curupita," etc. It is of the family of the *Euphorbias*, of which the *Hevea* is also a genus, although widely separated.

A salient characteristic of the *Sapium* seems to be its polymorphism. Dr. Huber showed me a specimen which had borne very large, long leaves. It was transplanted to a shady place, and at once began to put forth small leaves not above one-fourth the size of the former leaves and of an entirely different form. Leaves of both kinds were growing on this tree, although the large leaves were disappearing. From Dr. Huber's experiments and observations it would seem that the same tree will assume widely different aspects under varying circumstances, the main controlling factors being sun, shade, dry ground, and wet or periodically inundated ground. Dr. Huber finds that the *Hevea* is similarly polymorphous, and asserts that the so-called "black" and "white" varieties are really one and the same tree, the "black" growing in the shade and farther from the water, and the "white" growing on the edges of the forest near water and exposed to the sun. This question of polymorphism becomes important, if, as seems probable, the quality and quantity of latex is similarly variable.

According to Mr. Bonnechaux the rubber from the "tapurú" trees exclusively can not be distinguished from pure *Hevea* rubber. But there is testimony to the effect that pure "murupita" rubber (which seems to be identical with "tapurú" rubber) is less

elastic and less resistant to traction than *Hevea* rubber. Mr. Bonnechaux says that the merchants of Europe have never made any complaints. This is by no means certain. If complaints were made the commission houses of Pará and Manáos would not make them public, but would merely refrain from purchasing the special grade of rubber complained of. Further, I find that there are sold in this market considerable quantities of a rubber which comes, for the most part, from the upper Xingú river, and which is known as "borracha fraca,"* or "weak rubber," which resembles closely in appearance and quality the specimens of "murupita" or "tapurú" rubber in the Museu Goeldi, Pará. A price between that paid for "entrefina" and "sernamby" is paid for this rubber, showing that it is known to be of inferior quality. It is popularly supposed that it is made from *Hevea latex* mixed with "bastard rubber." What this last is does not seem to be known. In my opinion this "borracha fraca" is "tapurú" rubber.

But there seems to be doubt that large quantities of "tapurú" latex are mixed with *Hevea latex*, possibly to the extent of 40 per cent., without any difference in quality resulting, and it is even questionable to-day whether pure rubber, made exclusively from the latex of *Heveas*, is sold in any considerable amount. I have had some inquiries made for me in the market with rather startling results. A small quantity, a ton or so, of Upper river rubber was offered. A very low price was tendered, and to the expostulation that ensued the buyer replied:

"I can not offer more. This rubber is one-half 'murupita' rubber."

Quick as a flash the statement came: "No, indeed, sir; this is pure rubber. Farther down the river they do mix it, but this is pure."

The experiment has been tried several times and always brings the same response, a denial of any mixing in the particular rubber offered, but an acknowledgment that such mixing does occur. Now, I am informed that the "borracha fraca," which is probably pure "tapurú" rubber, is sold in the New York market for about the price paid for good "entrefina." All of which results in this: That there is produced from the latex of *Sapium aucuparium* (Jacquin) a rubber which finds ready sale and which, when mixed with *Hevea latex*, produces a rubber not to be distinguished from "borracha fina," or the supposed pure *Hevea* rubber. The expression used by a very prominent buyer here with whom I have discussed this matter is: "If there is such a thing as pure *Hevea* rubber."

This *Sapium* is a rather hardy tree. It grows with great rapidity. There is a tree in the botanic garden here 5 years old from seed, which is fully 8 inches in diameter 3 feet above ground and may soon be tapped. The seeds are small and apparently very hardy. They are certainly much less delicate than *Hevea* seeds, as Dr. Huber planted seeds which were more than 6 months old which gave strong, healthy plants. Mr. Bonnechaux speaks of an *estrada* of 140 "tapurú" trees, and from his data it is calculated this *estrada* yields about one-half a ton of rubber annually. The "tapurú" is said, however, to be deli-

*Under date of May 31, 1905, Consul Aymé writes: "I have secured a good specimen of the 'borracha fraca,' referred to in my report of May 25 as coming from the upper Xingú river. The present specimen is from the Tapajós river, but is, I believe, the rubber produced by the 'tapurú' or *Sapium aucuparium*. For comparison I send two specimens of the supposed *Hevea* product, 'fina' and 'sernamby'."

*An official report published at Washington.

cate; that is, it does not stand hard tapping. But it seems probable that with careful tapping, avoiding injuring the wood, the tree would do as well as *Hevea* does.

In any case, if it is certain that the *latex* of this tree can be successfully mixed with *Hevea latex* it would give it an enormous commercial importance, for this tree is very abundant and of wide occurrence in the Amazon valley, although it is worked chiefly in the state of Amazonas. It would seem possible that *Sapium aucuparium* might be successfully grown in places where it has been found difficult or impossible to grow *Heveas*. And even where the *Hevea* has been successfully introduced, as in Ceylon, it would seem practicable to add to the *Hevea* plantations this quicker growing tree, to mix the two milks, and thus increase the total output.

I do not discuss the more scientific and technical part of Dr. Huber's article, although I can not refrain from calling attention to his commendable attitude in refusing to divide mere varieties into separate species. He has thus reached a conclusion of the utmost importance—*i. e.*, the extreme polymorphism of the species. It should also be said that Dr. Huber published in December, 1901, or two years before the publication of Professor Jumelle's book, an account of several species of *Sapium* which he denoted as producing rubber. He is now engaged in very interesting cultural experiments with a number of young trees and promises to publish further details as soon as he can make sure of his results.

It is a matter of great difficulty to get any accurate information on such matters. The actual rubber gatherers are uneducated men and, as a most potent reason, know that their "patron," the contractor, will seize upon any pretext whatever to offer a lower price for the rubber brought in. The gatherer, therefore, is exceedingly suspicious and takes refuge in stolidly replying "I don't know" to all questions. He has neither time nor inclination to climb lofty trees to get specimens of flowers, fruit, or seed, nor can the patrons give much more information; they are too busy making money and accumulating the largest possible quantity of rubber; also it is doubtful if they would furnish any information they possessed for might not the Pará or Manáos *aviador*, who sells the rubber finally, use it to the patron's disadvantage?

Nevertheless I am making attempts to secure some samples of pure "tapurú" rubber and shall try to gather all further information possible regarding this interesting subject.

Pará, Brazil, May 31, 1905.

SUMMARY BY THE EDITOR.

IT appears from the documents which accompany the report of Mr. Consul Aymé, and which are too voluminous for inclusion here, that certain trees known as "tapurú," in the neighborhood of Manáos; "murupita," near Pará; and "curupita" on the north coast of the extensive island of Marajó, have become known to be producers of a perhaps important share of what is commercially termed Pará rubber. Only in a few instances have the products of any of these trees been known to be marketed alone, and the fact that Pará rubber so called maintains its superior position in the markets of the world is taken as an indication that the *latex* from these hitherto undescribed trees yields rubber of a high quality, the blending having no tendency to deteriorate the combined product. The trees to which reference is made are found in the forests in close proximity to the *Heveas* and the various species are tapped indiscriminately, their *latex* mixed, and all subjected to the same method of coagulation.

Dr. Huber, of the Pará museum, has devoted some study to the proper classification of the "tapurú," "murupita," and "curupita," with the result of being inclined to place them in the

genus *Sapium*. It remains to be determined as yet whether these trees, found in widely separated localities, are identical, owing to the incident of polymorphism (that is, a disposition to vary in their leaf formation under varying conditions), but for the present they are assumed to be the same and to correspond to the *Sapium aucuparium*—a species reported to be distributed over a large part of the Amazon region, but not understood formerly to yield rubber.

A French traveler, M. Bonnechaux, studied the production of rubber from the "tapurú," which, near Manáos, reaches a height of 25 meters [=82 feet] and at times a diameter of 1 meter [=2 feet 4 inches]. Twenty years ago, he writes, certain rubber gatherers, after first mixing the *latex* of the "tapurú" with that of the *Hevea*, without any known ill results, became bold enough to deliver balls made exclusively from "tapurú" milk worked in the same manner as used with the *Hevea*. No complaints came from Manáos or Pará, but nevertheless some patrons, learning the truth, refused to accept "tapurú" rubber except as a low grade product, whereupon the rubber gatherers ceased the exclusive working of the "tapurú" and went back to mixing its milk with that of the *Hevea*. Later, however, the demand for rubber having increased and the production of many *estradas* of *Hevea* having fallen off, the patrons have closed their eyes, first to the mixing of the milk and finally to the delivery of balls of "tapurú," which, however, they are not themselves able to distinguish.

M. Bonnechaux saw on the Madeira river, on a property belonging to Senhor Bentes Elioboro, an *estrada* comprising 140 "tapurú" trees of the average distance apart of 23 paces, which have been worked with care for five years, in the same season and in the same manner with the *estradas* of *Hevea* on the same property. A daily yield of 3 kilograms [=6.6 pounds] of dry rubber from the "tapurú" trees is mentioned, and though the number of days in the season on which the trees are tapped is not mentioned, the yearly yield is understood to be one-half ton.

It is interesting to learn that Dr. Huber and others mentioned by United States consul in his report are studying with interest the characteristics of this interesting new source of rubber, with a view, among other things, to determining the quality of its product as compared with the hitherto recognized source of Pará rubber, *Hevea Brasiliensis*. The facts collected by M. Bonnechaux were first made public by Professor Jumelle in his "Les Plantes à Caoutchouc et à Gutta" (Paris: 1903). This report was embodied, together with an extended study of *Sapium* species, by Dr. Huber in the December, 1904, issue of the *Boletim do Museu Galdi*, a translation of which paper forms part of Consul Ayme's report.

RUBBER REPORTED IN ARGENTINA.

THE ministry of agriculture of Argentina reports the discovery of India-rubber trees in the little known territory in the extreme northwestern part of the republic, particularly in the province of Jujuy. The discovery is credited to Ernesto Costa, since which time the agricultural department has dispatched its own agent, Juan Biale Massé, to the district. It is intimated that more than one rubber yielding species has been found, but the details given do not make clear what they may be. Argentina has not been known hitherto to contain any rubber. The region referred to lies between 20° and 25° south latitude, which is further south than any South American district now producing any rubber of consequence. The government is hopeful that the discovery will prove of much value in adding to the exportable products of the state.

THE "GUAYULE" RUBBER PLANT—II.

By Rudolf Endlich, Ph. D.*

THE industrial use of the Guayule plant dates only from the last few years, although several interested parties have been experimenting with methods of extraction during the past 15 years. The delay is principally due to the fact that men possessing a thorough knowledge of the rubber industry were not consulted.

Only one Guayule factory, a branch of the *Compañía Anglo-Mexicana* at Jimulco, near Torreon (Coahuila), is at present in operation. The success thus far attained by these works has recently caused the relatively small enterprise to be reorganized into a new company with German capital, the *Compañía Exploradora de Caucho Mexicano*, which is to enter upon the production of Guayule rubber on a large scale. For this purpose four more factories have been planned, and will be located at Gomez Palacio, at Torreon, at Saltillo, and at San Luis Potosi.

A competing firm at Monterey (Nuevo Leon) has discontinued the extracting of rubber before the enterprise had progressed beyond the experimental stage. However, an American syndicate has already completed the erection of its buildings at Saltillo. A short time ago, moreover, the firm of E. Madera Hermanos at Parras, commenced the building of a Guayule factory on their ranch "El Venado."

The Cedros company, furthermore, whose plantation "Cedros" has an area of 438 *sitios* (at 1755.61 hectares) on one-seventh of which, or 60 *sitios* (105,366 hectares), Guayule plants are said to grow, intends to establish a large plant on which 15 to 20 tons of crude material are to be handled daily. Two American companies, the Continental Rubber Co. and a California syndicate likewise intend to erect rubber works in the neighborhood of Torreon.

As the various methods of extraction are covered by Mexican patents attempts have been made to extract the rubber in foreign countries. It is stated, however, that only a few individual shipments of Guayule plants have been made to Glasgow and other ports. There is considerable doubt as to whether this exportation will prove profitable, for not only the relatively high freight rates of Mexican railways must be taken into consideration, but likewise the probability of a future high export duty, such as is at the present time being levied on other Mexican crude vegetable materials.

It is said that an enterprising genius has already undertaken the production of Guayule rubber on a large scale of chewing the bark, in the same way as toy rubber balls are now made in the state of Durango. But even if we do not consider the fact that this method can hardly prove successful, because it takes a Guayule chewer two days to produce a toy rubber ball, the enterprise is considered to be doomed to failure, as the persons engaged in it are soon attacked by lockjaw and have to abandon the work.

There are several more or less practical methods for extracting the Guayule rubber.

By the "Bergner" process (Mexican patent No. 2147, August, 1901) the plants are crushed in a Krupp crusher, and ground in a ball mill (Krupp patent) until the larger part of the wood is separated, and the rubber forms granules in conjunction with the remaining wood particles. These are separated from the wood either by sifting or by means of a suction device. For

purifying the rubber, the granules are placed in an iron vessel having a double bottom and heated by steam. As soon as the mass boils a certain specified quantity of a sodium salt is added, although this addition is not absolutely requisite.

After boiling, the mass is transferred to a wooden vessel where it is precipitated by the addition of cold water. After removing the water, the mass is passed through drum sieves having double bottoms. The rubber, which now contains only a few particles of wood, is thereupon boiled with sodium hydroxide, and precipitated by a solution of calcium chloride. This product is then compressed into thin flakes by means of special devices.

There are, however, simpler and more practical processes, in which the crude material, ground to a fine powder, is mixed with alkaline substances, and boiled in steam so as to separate the particles of wood.

These processes are probably similar to those used in the manufacture of wood pulp, which consists in heating crushed wood, after a 10° to 12° Baumé solution of soda has been added, during 5 to 6 hours with steam under a pressure of 6 to 14 atmospheres. This operation serves the purpose of dissolving the binding substances, thereby liberating the minute particles of wood.

After the pulp has been removed, the mass is washed in water and the alkaline substances are neutralized by diluted acids. The rubber thus obtained is dried in the shape of large flakes either in the sun or in rooms especially adapted to the purpose. The residue, consisting of wood and bark, is used as fuel for the steam boilers.

The details of the rubber extracting processes are, of course, kept secret by the manufacturers. It is said, however, that bisulphide of carbon is used in the extraction process of the American Guayule works at Saltillo.

Guayule rubber extracted by the ordinary methods soon blackens on the surface, while the inside of the flakes retains its original greenish gray color. Its disadvantage consists in the percentage of foreign substances it contains—27 per cent. of gum and aromatic matters, for instance, besides a variable quantity of wood particles. The gum is especially harmful, as the resinous quality of the rubber, which impairs its elasticity, is attributed to its presence.

The fact that Guayule rubber is easily vulcanized may be called a good quality. Its smell, which is not disagreeable, is due to the aromatic substances contained in the bark.

By the introduction of a new process at Jimulco, Guayule rubber has been so far improved that it usually contains no more than 10 or at most 15 per cent. of foreign matter. This rubber, which is very dark brown on the surface, but lighter in color in the interior of the flakes, is at the present sold at a price of more than 5 marks per kilogram, while only 3 marks per kilo were obtained for it before the introduction of the improved method.

The rubber extracted at a chemical laboratory in Germany, to which we have before referred, showed only 5 per cent. loss by washing, and is said to have been appraised in Germany and England at from 7 to 8.20 marks [per kilogram = 75¼ to 83¼ cents per pound]. If the method of obtaining a product of such purity is practicable, it might become possible to use the gum for technical purposes, after separating it from the rubber.

*Translated for THE INDIA RUBBER WORLD from *Der Tropenpflanzer* (Berlin), IX Jahrg., Nr. 5.

The result of practical trials, based on the laboratory experiment, have not as yet been made public.

The output of crude rubber (including the gum and other foreign substances) varies according to the moisture contained in the plants and is figured at from 8 to 12 per cent. Consequently, the output in the manufacture of rubber of superior quality, containing only 12 per cent. of foreign matter would vary between 6.8 and 10.2 per cent.

A plant with a daily capacity of 1000 kilograms [=2204 pounds] of Guayule rubber would daily require 10,000 to 14,286 kilos of dry crude material, figuring on an output of 7 to 10 per cent.

Now, let us suppose that 1 hectare [=2.471 acres] of the calcareous mountain slopes of which we spoke in this article furnishes 600 kilograms of Guayule plants. The extracting plant above referred to would daily require the product of 16.7 to 23.8 hectares, or the plants from 6012 to 8568 hectares annually. Even if we assume that the next generation of plants could be harvested after the lapse of 10 years, it would be necessary to command an area as large as 60,120 to 85,680 hectares [=148,557 to 211,715 acres] of Guayule producing land.

Now, if we bear in mind that even under favorable conditions only one-seventh part of a large area of land produces Guayule plants, it becomes evident that enormous distances and consequently difficulties in the obtaining of the crude material for such industrial enterprises will usually have to be taken into consideration.

Although a large part of the more important Guayule districts commands good railway facilities, there still remain immense areas whose exploitation would be made difficult, if not impracticable, on account of the lack of means of transportation.

These difficulties in transporting the material, which are mainly due to the fact that water in sufficient quantities for the requirements of pack animals cannot be found in these calcareous mountain districts, are encountered even where the lands are no further removed from a station or watering place than 20 or at most 25 kilometers [=12½ to 15½ miles], a day's trip (both ways).

The cost of transporting the crude material is not of great consequence, even where full day's journeys are concerned, especially when donkeys, the most suitable pack animals in the *chapparals*, are employed. A donkey driver, for instance, is paid about 37 cents per day, and for his wage he must not only transport the plants on two or three donkeys, but likewise gather their loads. Twenty-five cents would be a high figure for the feeding of a donkey, and it often costs only one half of that sum. Each animal carries an average load of 75 kilos.

For an entire day's journey (20 kilometers and return) two loads (150 kilos) would therefore cost $50 + 37 = 87$ cents, and three loads (225 kilos) $75 + 37 = 112$ cents. The transportation charges per ton of crude material would therefore be 4.97 to 5.80 pesos [Mexican silver dollars]. It is asserted, however, that for transportation over long distances, such as are already required even now, the cost is sometimes increased to 25 pesos per ton.

The comparatively large amount of water required in the manufacture of Guayule rubber makes it necessary to seriously consider this question when locating a plant. The supply of fuel offers fewer difficulties, although it is sometimes expensive. While firewood can as yet be usually obtained in sufficient quantities and at low rates from the plantations of the Guayule district, its purchase in cities like Torreon, where the price of mesquite wood (*Prosopis juliflora*) is 5 pesos, is quite expensive.

In the majority of cases the rubber manufacturer has to take

care of the railway transportation of the crude material, while the gathering and conveying of the plants to the stations is usually attended to by the landowners. The prices to be paid for the Guayule plants will as a rule be comparatively low, especially when the landowner is interested in the enterprise and shares in its profits.

The purchase or lease of Guayule lands offers material advantages to the rubber producer. When the plants are gathered on purchased or leased ground nearly the entire cost consists in transportation and gathering expenses as the working of the plantation, either by the raising of goats, cattle, horses, and mules, or by the exploitation of uncultivated fiber plants, such as "lechuguilla" (*Agave heteracantha*, Zucc.) and several varieties of the so called "palma" (*Yucca spec.*), assures the earning of a fair rental. Still, owing to the increased demand for Guayule, it will not be very easy to either purchase or lease suitable lands at the present time.

It is even more difficult to approximate the total supply of crude material than to figure out the average output per hectare. Let us assume that in the area of 75,000 square kilometers, comprising the districts where the Guayule plant is principally found, one-tenth actually contains a supply, this would mean a territory of 7500 square kilometers or 750,000 hectares [=2895.4 square miles]. If we figure the output on ¼ ton per hectare, we get a total supply of 375,000 tons, which, at the rate of 7 to 10 per cent. rubber, represent a total of 26,250 to 37,500 tons of rubber. The supply of Guayule would therefore be sufficient for operating the rubber plants already planned for a number of years.

In our calculation, however, the distant parts have been included, although their exploitation would be very difficult on account of the lack of water. These obstacles could be best overcome by cultivation, which, in fact, has already been planned by the *Compania Explotadora de Caucho Mexicano*.

The very limited requirements of the plant, the small value of the lands within the Guayule districts, as well as the low rates of wages, are favorable factors for the success of Guayule cultivation.

Practically nothing is at the present time known regarding the development of the plant from its seed. Some interested parties assume that the cultivated plants (as well as the young plants in their natural state) will have reached the average height of the wild growing dwarf trees in from 8 to 10 years, while others believe that this growth will not be attained in less than 12 to 15 years.

Judging by their general appearance, the majority of the Guayule plants now being worked are older than 10 years. Younger plants, however, produce rubber in accordance with their bulk, and they may therefore be gathered before having reached their full growth, without damaging the crop to any considerable extent. In favorable districts, where the plants weigh 1 to 2 kilograms and even more, an average weight of 200 grams might be counted on, even though the plants were harvested after 6 years or earlier.

In this way a Guayule plantation, supposing the planting to be done in rows at a distance of 1 meter apart, with the plants space in the rows at .50 meter apart, would produce about 20,000 plants to the hectare, or 4000 kilograms of crude material.

A daily output of 1000 kilos rubber would, therefore, figuring on a percentage of 7 to 10 per cent., consume the plants growing on 2.5 to 3.5 hectares, thus making the annual consumption (360 days) equal to the product of from 900 to 1260 hectares.

A harvest of 4000 kilos [=8,818 pounds] of Guayule plants which, on the basis of the percentage quoted above, would pro-

duce 280 to 400 kilos of rubber, would, at the rate of 5 marks per kilogram rubber, be equivalent to 1400 to 2000 marks [= \$333 to \$476] gross receipts.

Future experiments must show whether, in the case of Guayule cultivated on better soil, rich in lime, the proportion between the weight of the plant and the output of rubber will be equally favorable when compared with the wild growing plant. However, even if the proportion of rubber in plants cultivated in good soil should be less than that found in the Guayule growing on the sterile mountain slopes, the increase in the gross weight of the plants harvested might make up the difference.

The Guayule offers the following advantages over other rubber producing plants:

1. Its requirements in the matter of soil and moisture are limited, and it may consequently be used for making sterile lands productive, providing the soil contains a sufficient amount of lime.

2. It grows in a splendid subtropical climate, a fact which is especially important on account of its bearing on the question of labor. The plants, moreover, do not suffer from night frosts.

3. The plants may be gathered throughout the year.

4. In suitable districts its cultivation promises high net returns, provided it is carried on conjointly with the manufacturing of rubber.

Now, as in a large part of German Southwest Africa natural conditions (soil, climate, altitude, etc.) are similar to those prevailing in the northern part of the Mexican highlands, it becomes highly probable that the Guayule plant with its very limited requirements would likewise flourish in many districts of that colony.

DRAWBACKS TO THE RUBBER TRADE.

THE following reports, derived from various sources during the past month, are presented as specimens of the many drawbacks to the crude rubber trade in the Amazon valley, all of which have an influence in increasing the risks of the business and operate against the cheapening of rubber to the consumer:

I.

THE directors of The Amazon Steam Navigation Co., Limited, at the thirty-third ordinary general meeting of the shareholders (London, June 29) reported: "Unfortunately the navigation of the rivers, and especially that of the Upper Purús, Acre, and Jurúa districts, from which the company derives a large proportion of its revenues, was attended by exceptional danger, owing to the unusually large number of partially or wholly submerged logs, from striking which very many casualties resulted. The board deeply regret that among the steamers which were lost or severely damaged from this cause were the company's vessels *Antonio Lemos* and *Barcellos*. The former—a sternwheel steamer—was holed and submerged in the upper Purús, in November last, while the *Barcellos* suffered similarly early in December in the same river. There is reason to hope that when the rivers are at their lowest, which is expected to be early in July, it may be possible to effect considerable salvage. With this object in view, properly equipped expeditions have been despatched from Pará and every effort will be made to refloat the two steamers, the book value of which is £26,000. Meanwhile as a provision for the eventual loss which may result, the extent of which cannot yet be determined, the directors have charged to the insurance fund £16,000, which amount is replaced by a transfer from profit and loss account."

In THE INDIA RUBBER WORLD of October 1, 1904 (page 18) a Manáos contributor wrote: "The expenditure of a million

dollars for improving the waterways in that region [the Acre district] would work a wonderful improvement in navigation, and do much to stimulate the business of gathering rubber. But where is the money to come from, and who would undertake the work? There is no private interest prepared for it, and government undertakings in the Brazilian states require an immense amount of time for results, if any are ever reached. During some months of each year the Acre itself is a very narrow and shallow stream. It could still be navigated by steam launches, however, but for the many trees which fall into it and which it is nobody's business in particular to remove. Yet the total cost of removing such obstacles, and of dredging here a bit and blasting there a bit, would not be great, in view of the benefit to be derived, and the stream could be made navigable all the year and for larger vessels than can now pass through it during low water. At present communication with the rubber districts on the Acre is practically cut off for months at a time. Not only does no rubber come out, but the settlers there have no means of obtaining supplies. All their food is imported, and at times their condition becomes one of real hardship from the lack of food, resulting in weakness and inability to resist the fevers so prevalent there. The keeping open of the Acre alone would work a great change in the rubber business of the Amazon valley."

II.

THE United States consul at Pará, Mr. Louis H. Aymé, reported on May 11: "The usual period of low water (*vasante*) on the upper Amazons has set in this year much earlier than usual. In consequence a fleet of 21 steamers and a very large number of sailing and rowing craft of considerable burden, all heavily laden with the annual supplies for the rubber camps, are stopped at the mouth of the Purús river, many of the boats being high and dry on the banks. Some of the supplies are more or less perishable and all are sorely needed; failure to get them to the camps will mean heavily diminished returns of rubber next season. At the same time the unusual and very heavy rains in the lower river region have severely affected the production of Islands rubber, and very little may be expected for the next six weeks or more. The trees begin to blossom in June and during this time the production of *latex* diminishes, so that very little Islands rubber is to be expected in this market for the next four months or more."

III.

BORGES, HALL & Co. have protested against the extra 3 per cent. duty recovered by the Manáos customs on a parcel of rubber shipped by this firm. Duties on Acre rubber were formerly 15 per cent. but were this year raised by the budget to 18 per cent. Before the news of the increase reached Manáos, Messrs. Borges, Hall & Co. seem to have despatched and shipped a large parcel at the previous rate, on which the custom house has now obliged them to pay the difference, amounting to 3134 milreis. Clearly, if the government fail to keep even their agents properly informed of fiscal alterations, the public can know nothing about them and cannot be made retroactively liable. Messrs. Borges, Hall & Co., in all probability, bought and sold the rubber in question on the footing of 15 per cent., and if obliged to pay 18 per cent. will stand to lose 3134 milreis, through the failure of the government to keep the customs at Manáos properly posted. This is not right and, no doubt, will be taken into consideration by the minister and allowance be made for this particular and similar cases.—*The Brazilian Review*, June 6, 1905.—[The amount named, 3134 milreis, would equal, with exchange at 16 pence, \$1016.77 gold, on a shipment of the total value, as indicated by these figures, of \$33,892.]

THE RUBBER FACTORIES OF JAPAN.

HERE is presented on this page what is believed to be a complete directory of rubber manufacturing concerns in Japan, including first the name of each company in Japanese type (the lines reading down the page), followed by the Japanese words in English type, and finally the English equivalents for the native names.

The total capacity of the rubber factories of Japan is not yet large, but the promoters of the industry have shown a degree of energy and persistence that is characteristic of the people of that country, and a marked impetus has been given to the industry of late by the pressure of the government's demand for goods of every kind in consequence of the war.

From the beginning the insulated wire industry has formed an important branch of the rubber industry in Japan. The people of that country were early in appreciating the advantages of the industrial uses of electricity, and the domestic manufacture of wire for electrical transmission has acquired considerable dimensions. Hand in hand with this development has been the progress in insulating wire, including the employment of rubber.

The Yokohama Electric Wire Manufacturing Co. have perhaps the largest capacity in the line of rubber insulation. Of late their factory has been undergoing enlargement, and their rubber insulation department has been placed in charge of an expert imported from the United States.

The Fujikura Insulated Wire and Rubber Co. (Tokio) likewise has been growing of late, including the installation of machinery during the past year which has doubled the capacity of the works—now almost equal to that of the Yokohama company. The size of the works is indicated in part by the fact that the new engine and boilers are of 100 HP. The work of this company, by the way, is no longer confined to wire insulation, but embraces the output of various other products of rubber. The factory was established in 1884 by Zempachi Fujikura, who at his death in 1901 left it on a profitable basis. He had been interested in other industries as well, being a director in the Oriental Rubber Co., Limited. A nephew, Mr. Kenzo Okada, now in an important connection with the works, spent several years at one time in the United

States, making a practical study of the rubber industry.

The Mitado Rubber Manufacturing Co. (Tokio) is perhaps the largest of the companies in the mechanical rubber branch.

The production also embraces toys. This company is the outgrowth of a small beginning made some 15 years ago by a young Japanese who gained some insight into the rubber industry on a visit to America.

The Oriental Rubber Co., Limited (Tokio), which ranks with the last named in extent, was founded about 1880 by a Mr. Ogiwara. By 1900 the capital employed had been increased to 500,000 yen [=about \$250,000 gold]. The company manufacture hose, valves, gaskets, and mold work generally, employing about 225 hands and using a steam equipment of 200 HP.

The Meiji Rubber Works (Tokio), represented at the Osaka Exhibition in 1903 by an extensive display of garden and other hose, packing, valves, balls, mats, and matting, issues a catalogue of these products filled with illustrations very similar to those appearing in American rubber goods catalogues.

The Japan Rubber Co., Limited (Tokio), organized in 1900, was the result of consolidating the Yoshida and Hashimoto factories, with a view to meeting the competition of concerns much larger than either of them working singly. The capital at last accounts was 150,000 yen [=about \$75,000, gold], and the output is mechanical goods.

As far as druggists' sundries go, the Japanese rubber manufacturers have not as yet attempted to do more than experiment with them in a very small way. In a very few years, however, they doubtless will have entered the field, because to day both England and America furnish many goods for that market. In rubber footwear nothing at all is done nor have any of the factories attempted to make hard rubber goods. What little rubber clothing is in use is all imported. The machinery used in these factories is the product of either English or American foundries, with the exception of some few machines built in Japan. The crude rubber which they use as the basis of their work comes chiefly from England, while fabrics and compounding supplies come largely from the United States. So far, the country has done no reclaiming, and no one there is making substitutes.

藤倉電線護謨合名會社

FUJIKURA DENSEN GOMU-GOMEI KAISHA.
Fujikura Insulated Wire and Rubber Co. (Tokio).

東洋護謨株式會社

TOGO GOMU KABUSHIKI KAISHA.
Oriental Rubber Co., Limited (Tokio).

津田商店

TSUDA SHOTEN.
Tauda & Co. (Kyoto).

三田護謨製造合名會社

MITADO GOMU SEIZO GOMEI KAISHA.
Mitado Rubber Manufacturing Co. (Tokio).

日本護謨株式會社

NIPPON GOMU KABUSHIKI KAISHA.
Japan Rubber Co., Limited (Tokio).

萩原護謨製造所

OGIHARA GOMU SEIZOSHOKU.
Ogihara Rubber Works (Tokio).

横濱電線製造株式會社

YOKOHAMA DENSEN SEIZO-KABUSHIKI KAISHA.
Yokohama Electric-Wire Manufacturing Co., Limited.

明治護謨製造所

MEIJI GOMU SEIZOSHOKU.
Meiji Rubber Works (Tokio).

大阪樹脂製造所

OSAKA JISHI SEIZOSHOKU.
Osaka Gummi Works (Osaka).

JOTTINGS BY AN AMERICAN IN EUROPE—III.*

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am writing in Montargis, one of the most beautiful and most interesting cities of middle France. Were your readers not such a serious, busy lot, I would like to tell them about this quaint city. It is modern and it is old, full of nooks and corners which one comes upon unexpectedly and with surprise; its people and their habits are quite peculiar and one sees strange sights and sometimes hears voices coming as it were from the ground, or the water; of this latter element the city has a quantity and it is put to all uses except that of a beverage. But I am forgetting that yours is a trade journal and that your subscribers expect something at least leaning towards the rubber industry.

One sees too little in the trade journals about the French rubber factories, for there are a large number of them and many are very interesting. There is but one, however, which really makes boots and shoes, in addition to its other products, and that is the very important concern known as the *Établissements Hutchinson*. A few lines about this plant may interest your readers for various reasons. It differs somewhat from all other factories; it makes things which many important factories prefer to buy; the name "Hutchinson" is an American name; the factory was founded and for years owned and managed by Americans; its trademark is distinctly American, and consists of the eagle and stars familiar to all Americans on the United States shield.

But not only is our proud bird ground into the mud on the shoes of French people, but it does what all Americans should expect it to do: it soars above the whole country surrounding the factories, for it stands with outstretched wings on the pinnacles of two of the towers surmounting the principal building, and by its attitude seems to be bidding defiance to those who place it on the bottoms of shoes. It does even better than this, for from the Hutchinson pneumatics it throws mud and dirt at all who get within its reach. Our poor bird serves many ends on this continent. In Hamburg he graces the wine cards of a so-called "American bar," and in most of the cities it has become the sign of the pseudo Yankee institutions where liquid mixtures are compounded under American names but which few would recognize as of American invention.

In the early days of the now great industry due to the work of the immortal Goodyear, a Mr. Hiram Hutchinson had in hand the old New Brunswick Rubber Co.; later he built the Newark Rubber Co., the present factory at the canal being of his construction.† In 1853 he came to Paris and looked about for a place to found a new rubber factory and selected the place now known as Langlée, in Châlette, near Montargis, about three hours' ride from Paris. The location is a beautiful

one, near several communes which furnish a great number of work people, and near a canal which gives an abundant water supply. One of the reasons causing this selection was the granting by some one of the perpetual right to take a certain amount of water for power purposes. This now gives them about 40 HP. through the two old turbines. Hiram Hutchinson, Sr., the founder of the company, died in 1869, but previous to this time he had formed a company known as Hutchinson, Poinsel & Co., and Alcazar, his oldest son, had been taken into the firm.

Alcazar succeeded his father but in 1872 Mr. H. P. Moorhouse came over from the United States as the representative of other heirs of Hiram, and so it came about that on January 1, 1873, the firm took on the name of A. Hutchinson & Co. Mr. Moorhouse was with the company until 1883. I believe Mr. Alcazar Hutchinson died about 1889, after which the company was managed for a while by his family. For reasons which do not concern us, the company liquidated in 1900, when the present company was formed. Not a Hutchinson remains in it. The two older generations have passed on; of the younger, one is in America and one here in France. Mr. H. P. Moorhouse lives in Paris as the European representative of several important American concerns.

Most American rubber people know Mr. Moorhouse, and I believe all the Europeans do and, therefore, I need not refer to his geniality, his good nature and kindness to such Americans as he may meet in Paris. He lives beautifully with his two daughters, the eldest of whom is the widow of our late friend, Charles L. Johnson, of the Candee and United States Rubber companies, and she too, has a hearty welcome for her American friends. She is mentioned here because she is a direct descendant of the Hutchinson family through her mother, who was a daughter of Mr. Hiram Hutchinson, Sr.

The technical director of the new company is Mr. Gustave Bouguillon, one of the best known rubber men in France. Through his energy and skill the company is assuming its old place at the head of the French rubber industries. Its boot and shoe business is its chief feature. Much of the machinery is very old and out of date, and as compared to American methods moves very slowly; its mill room is a wonderful display of ingenuity, not of that sort which is generally welcomed by manufacturers, but of the kind that seeks curves where straight lines would be better, according to my ideas. One small row of machines is parallel to the driving shaft, while by far the largest number are at right angles, each one connected to a main line by bevel gears. The noise is great, and I think the useless friction greater, but it has the advantage of being able to make repairs without stopping the main line.

I note these things, Mr. Editor, because they seemed strange to me, and I was told the plan was the best. The world was not made in 2 days, neither can a rubber plant be remodelled in a day and be kept at work too, but the process has begun and made great headway. A new engine room has been built and equipped with as good engines as could be desired. The shoe room is the place, however, that is of interest. In fact, some of our younger men would give it all of their attention, not because it would be necessary, but because in no other place in the world can be seen such a neat, well dressed, pretty set of girls, and their nationality adds something which cannot well be described, but which a Frenchman calls *chic*. They work

*No. I of this correspondence, published in THE INDIA RUBBER WORLD, May 1, 1905, related to the rubber works at Harburg a/d Elbe, and No. II, in the June 1 issue, to the rubber industry in Sweden.—THE EDITOR.

†The deposition of Hiram Hutchinson, taken in the city of Paris in 1854, before the United States consul there, in the suit of Horace H. Day v. Isaac Hartshorn and Daniel Hayward, in the United States circuit court at Providence, Rhode Island, contains this statement:

"I have been engaged in the manufacture of India-rubber constantly since 1835—from that time to 1843 in New Brunswick, New Jersey; from 1843 to 1853 in Newark, New Jersey; and largely engaged since 1845. I was president of the Newark India Rubber Manufacturing Co. from its incorporation in 1846 to 1852."

It may be added that the occasion of Mr. Hutchinson's going to Europe was his purchase, in connection with Mr. John C. Henderson, a New York merchant, of the rights under Goodyear's vulcanization patent for the continent.—THE EDITOR.

rapidly and well; they make a good shoe, and make it in endless varieties, using 112 different trademarks.

The system, parts, and tools used are very much like those common to most factories of the kind. Here one meets an old friend, a complete stranger in other parts of Europe—the wooden last; they have two last turning machines and can keep the supply equal to the demand. The shoe rack used is very short, holding eight shoes; here again a departure is made from the universal custom; the short racks are loaded to the tune of six on a small hand car, rolled into the varnish room, at the foot of a long incline, and carried into the vulcanizing chambers, rack by rack. There are no tracks in any part of the shoe factory. The vulcanized goods are once more packed on to the carts and at the expense of much strength and labor are brought back to the making room, or rather its end, which is the packing room. They make nearly all the light styles made in America; they make blacks, white, and tans, an endless variety of tennis goods in all colors and prices, and a really fine and high priced calf shoe with rubber sole.

At the other end of this room part of the cutting is done, the balance being done in a room adjoining. Two power cutters are used; they work rather slowly, but are good machines and no workman can ever lose a finger or hand in their use because stock, table, and die are withdrawn after each stroke. No hand dies are used, and all hand cutters use water on their blades and much of it is slopped about. These men and boys are quite expert and work rapidly and the prices paid for piece work are very low. The methods of stock handling are a revelation and require much time, but I am getting too lengthy.

I found two machines used for cutting out frictioned stock by means of a quick running hand knife, which did a whole lot of work in a very short time. During my rambles I unfortunately kicked the larger part of the top on one of my shoes, and as I was bewailing my hard luck, for I was miles from my hotel and had a whole day's tramping about the factory ahead of me, when the gentleman with me said, "We will fix that," and passing through a door nearby, I was in a full fledged leather shoe shop and in ten minutes my top was sewed on in good shape, and so I discovered that they had a leather shoe shop where all the high priced calf skin shoes were made, as well as the cheapest tennis. Then another afternoon I was tempted into a doorway and up a flight of stairs, and I fell upon another surprise, a fully equipped knitting mill with 30 machines turning out double threaded net for shoe making, and two thread doubling machines; all the net made here is of the double threaded variety. I naturally looked for a spinning room next, but have not yet found one, and I was told upon inquiry that they actually bought the thread used.

The shoe department is under the charge of an English gentleman named Chapman, who has been here now 22 years. A strange sight to an American visitor is the bottle of wine within the reach of each girl, and nearly every man comes to work morning and afternoon with the neck of a quart bottle protruding from some pocket or the other.

An entire new shop for the manufacture of pneumatic tires has been built. It is all ready for operation with the exception of some electrical machinery which is now due. As soon as this is installed they will have largely increased facilities for the making of an auto tire which is already making a name for itself in this country of automobiles.

All kinds of rubber hose are made, entirely by hand work. Garments and mechanical supplies, belting and surgical goods, and in fact a little of all that is made in rubber is here produced. A duplicate steam plant and engine are always ready for use in case of an accident to the regular plant. The loca-

tion is a fine one, about 1½ miles from Montargis. A special branch runs in to the works from the railroad track, and a basin capable of holding a half dozen large barges connects by a private canal to the large canal which passes not far from the works; the yard is dotted with large trees, a nice garden is kept there, and all in all the place is a very pleasant one. The works are in a place called Langlee, as already stated, while after a few moments' walk one finds a small comely village called Verines, part of the commune of Châlette; one or two other villages are scattered within easy reach.

Not taken within the grounds is the old home of the Hutchinsons known as "Le Chateau," a handsome building with stables and a park, a garden, and a small pond. Non use has caused the building to become a little dilapidated and since a year or two its lower floor has been used as a storehouse. In the interior are many handsome mural paintings by the Countess of Loyauté, who married one of the Hutchinsons, and so fall to common uses the homes of the magnates when once they lay aside the cares of life.

As the noon hour whistle sounds, the pump in the corner of the yard is at once surrounded with a bevy of men and women each holding in hand a bottle half full of red or white wine, with water so as to increase the quantity of liquid but not the strength. Hundreds pour out of the gate, and here one can spend a few moments to good advantage, for here is a line of small merchants at hand and ready for business. The first one is a large red faced woman with a cart loaded with newspapers. It is astonishing to see the number who stop here to buy or take a paper. Then come cold meats and sausages, fruits and vegetables—among the latter great bundles of asparagus; various knick-knacks, ribbons, laces, combs, pencils, etc., and finally the wine merchant, selling from his cart either by the glass or by the pint or quart, red or white wine. The operatives all seem happy and contented, but the pay is very small when viewed from American eyes. There are many old people, comfortably off, who still come in daily, pretend to work, and do draw their pay. Some of these are so slow that they fail to move to let themselves pass.

I think, Mr. Editor, that this must be the El Dorado of rubber men; perhaps I had better qualify that and say rubber tire men. Ninety-five per cent. of the *fiacres* in Paris are pneumatic tired, and these number away up into the tens of thousands; autos of various kinds are numberless. On Friday of last week took place the great race at Clermont-Ferrand. On the Sunday preceding, autos of all kinds began going through Montargis, and day and night until Friday morning the howl and thump of the auto was music to the ear of the rubber man. On Wednesday a count was made of these passing my hotel between 7 A. M. and 6 P. M. and it was 362.

A day or two ago I heard a rattle and a thump, and through the window near me came the fumes of vile gases, so sweet to the nostrils of the lovers of the machine; in the yard before me a huge racing machine had come to anchor; a machine which without trouble makes its 115 kilometers [=71¼ miles] an hour. It has come here as an appendage of the works and is to make genuine endurance tests of the Hutchinson's "pneu."

I have given you, Mr. Editor, for the benefit of your readers, just a few of the things I have seen and the impressions they have made upon me. My journey among rubber people, now in the beginning of its fifth month, has been a continual round of pleasure and surprise, and as most of those seen are readers of the "best rubber paper in the world" (quotation from one of the best known manufacturers of Europe), I hope they will accept through this medium my thanks for the endless courtesies extended to the rambling

ALASION M. STICKNEY.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

DESPITE the continued high price of raw rubber there seems nothing to complain of in the volume of trade to judge by what I hear at the large works. Extremely busy in nearly every department is a common report—a state of affairs which shows no likelihood of proving evanescent. Although the price is still high, it has remained for some months now at practically the same level. Thus the awkward factor which dominated last year's trade has been eliminated and a fixed ratio between manufacturing costs and selling price has been maintained. Testimony to this was borne by the chairman at the recent half-yearly meeting of the Silvertown company, the condition of affairs showing an improvement such as will, it may be imagined, result in the shares of this company regaining their level of two years ago.

STATE
OF TRADE.

A GOOD deal is being heard at the present time of the pneumatic hub which is to replace the ordinary rubber tire, with a great saving of rubber. I am told in one quarter that the idea is an old one, though it does not seem to have had much of a trial.

A PNEUMATIC TIRE
DEVELOPMENT.

Whether it is a novelty or not a strong London syndicate is now engaged in developing it, and great results are expected. The claim is that by the fitting of a pneumatic cushion round the hub the same effect as far as easy running is concerned is obtained as in the case of the ordinary rubber tire encircling the rim. Though not exactly germane to this topic, I may mention that nothing has been heard of the armored cloth tire which the Dunlop company were to make under Midgley's patent, and it is therefore natural to assume that it has not proved a success.

I UNDERSTAND that a French rubber company of some prominence has recently patented a machine whereby the canvas in old rubber is entirely separated from the rubber. The process is quite mechanical, no chemicals or heat being used. In these days of high prices for rubber scrap such a process is, of course, of more interest than in the old days one can remember, when it was customary to burn insertion under the factory boilers. I hope to give further details of the machine shortly.

NEW
RUBBER SCRAP
MACHINE.

ALTHOUGH I understand that the venture has not been crowned with success, it may not be without interest to what has been attempted by a London firm in the way of utilizing old cab tires. The idea was to buy up worn tires at scrap prices, to cut them into segments of about a quarter inch width and to put them in contiguity on stiff iron wire. A new tire was thus made and a considerable number were put into use, the low price at which they could be sold of course proving an attraction. The chief objection, however, to them and which has led to their general abandonment, is that all cab tires are not of the same manufacture and quality. The scrap bought was of various makes and it was repeatedly found that while some of the segments remained quite sound, others rapidly wore out, giving the tire an uneven surface. There may possibly have been other disadvantages, because I don't see why it should be a difficult matter to get a lot of old tires of one make, especially if a good offer, as scrap prices go, was made for them. Though, as I have said, the days of these tires seem to be num-

USES FOR
OLD RUBBER.

bered, at their introduction they certainly caused a flutter of excitement among the makers of cab tires, as they were sold at considerably less than half the price of the latter.

WITH regard to this topic, referred to at length in our London contemporary, I am certainly in line with those who con-

THE
RED RUBBER
SCARE.

tend that if any disease is traced to the red rubber rings used in mineral water or beer bottles, it is due to the physical action of abraded particles, rather than to any specific toxic effect produced by the red sulphide of antimony. It is undeniable that these rings often remain in use longer than should be the case, and the oxidized rubber will easily break off and fall into the bottle. As such particles must be looked upon as decidedly dangerous in these days of appendicitis scares, the moral would seem to be that the rings should be regularly examined by those who fill the bottles and the worn ones replaced by new ones. In mentioning the harmlessness of red sulphide of antimony in this connection, I wish to be understood as referring to the pure product, containing pentasulphide of antimony, free sulphur, and sulphate of lime only. Such brands as contain the oxide of antimony in greater or less amount might easily prove dangerous and whatever may be considered desirable in the case of other red goods, it should certainly be stipulated that the antimony used for bottle rings or in connection with other food products should be quite free from the oxide.

ABOUT a year ago I said a few words regarding a preliminary prospectus issued by Messrs. Johnson & Phillips, electric cable manufacturers of Charlton, Kent. The capital then proposed was in the neighborhood of half a million. In the recent prospectus the more

NEW
FLOTATIONS.

moderate sum of £350,000 is asked for, and the issue seems to have gone off all right. There has been an absence of the hostile criticism which the market directed against the first attempt, and the fact that the reduction in income of recent years is plainly stated has excited favorable comment. Moreover, there are now more debentures and less share capital than in the first proposition, a fact which has aided its more favorable reception. For a great many years the firm bought their rubber insulating material by contract from outside, but about four years ago they put down a rubber manufacturing plant of their own. The recent flotation of Claudius Ash Sons & Co., Limited, at a capital of £1,000,000 sterling, went off, I understand, very well, being over subscribed for. Though the company has to a large extent a monopoly in the dental rubber and supplies business, the field is shared to some extent by the Dental Manufacturing Co., Limited, a concern founded a few years ago, and in which a large number of dentists up and down the country hold shares.

THE principal change which has come over the relations of the West African rubber merchant and the native collector is the substitution of currency payment for the old system of barter. Judging by what the merchants say they made much bigger profits in the good old days when the intrinsic value of the goods given in exchange for the rubber was but imperfectly known to the natives. The latter in now insisting on payment in coin even though they undertake to spend it at the merchants' stores are undoubtedly acting in their own interests and they can hardly be expected to consider the feelings of the

THE DECLINE
OF BARTER.

merchant who bewails the altered condition of affairs. This barter system is of course closely allied to the truck system of payment to workmen which is now illegal in England and has seen a great reduction on the Continent in late years owing to agitation on the part of the work people. That it is open to great abuses in the case of illiterate and ignorant men admits of no doubt and those who advocate its continuance except in cases of very primitive civilization must excite suspicion as to the disinterestedness of their action.

In the June issue of THE INDIA RUBBER WORLD under the head of "Jottings by an American in Europe," some appreciative remarks are made in reference to the article

THE SWEDISH RUBBER TRADE.

I wrote last year on the rubber trade in Norway and Sweden. With regard to the surprise expressed at the accuracy of the article, there is a very simple explanation, and that is the willingness of those concerned to give the necessary information. My experience in other countries, and especially in my own, is that often it is an exceedingly difficult matter to get information at first hand. Manufacturers seem always interested to read what one has to say concerning the doings of their competitors, but their own springs of information show a decided tendency to run dry on the appearance of the interviewer. It was quite a revelation to me to find an opposite tendency in Scandinavia, and this rendered my self-imposed task an easy and pleasant one.

As an appeal has been entered against Mr. Justice Buckley, finding that the Haskell patent has been anticipated, comment

THE GOLF BALL TRIAL.

on the case ought to be suspended. Since the judicial finding a considerable reduction in the price of balls now sold at 2 shillings each has been freely talked about in golfing circles, but evidently such anticipations are somewhat premature. There seems little doubt that the present retail price leaves a handsome profit, judging from the cost price of the elastic thread and Gutta-percha, and the makers should be able to contemplate a reduction with equanimity, though probably not with approbation.

At some of the London workhouses the tasks allotted to casuals have been widened in their scope and it may be news

NEW WORKHOUSE TASK.

to some to learn that one of the innovations is the separation of the insulation from narrow vulcanized rubber cables. A year or two ago the competition of prison made goods was strongly denounced in the house of commons. I am not suggesting that there is anything to be objected to in the workhouses going into the scrap rubber line, but the dealer who supplies the cable and gets the rubber back for sale seems to be a man of business, because in the ordinary way it has never been found profitable to strip the narrow cables by hand and the rubber has generally been burnt off.

THE June number of this Journal reprints from a Toronto contemporary some interesting remarks on the Canadian waterproof industry. Though there is nothing

WATERPROOF TRADE IN CANADA.

in the British references which requires correction, yet a few words by way of *addendum* seem called for. To the three Manchester waterproofing firms mentioned as having done most of the early trade in Canada should be added S. L. Gotliffe & Co., who probably did the biggest business of any at one time. It is not surprising that since the evolution of the home manufacture in Canada the English firms have closed their offices, Frankenburg's being the last to take this step. This does not mean, however, that all business is stopped, because a considerable amount is still being done. This is more especially with single textures, in which the British make is superior to the Canadian. The

article referred to above says truthfully that the Canadian made proofing stands the climate better than the English make does. This applies especially to double textures, and I am told that the superiority consists in their being a good deal cheaper than the English, and because they contain the American pitch proof in place of rubber. It is considered in England that for cold climates this pitch proofing may be superior to a pure rubber proof, and this fact added to its lower price makes English competition quite impossible. Of course it must not be assumed that no business in this branch is done by other than the four Manchester firms whose names have been mentioned in connection; other firms have a share in it, but have not laid themselves out specially for the trade.

I SEE that in a recent patent of C. A. R. Steenstrup, hydrofluoric acid under pressure is one of the chemicals used. This has been proposed before, though I do not know whether it has been patented. I expect it will be found an objectionable substance to use, and I don't see how it can affect more in the way of destroying textile fabric than the cheaper mineral acids. Heintzler's patent for dissolving vulcanized rubber in aniline or its higher homologues with the subsequent separation of the rubber free from mineral matter has now run out.

DR. SCHUMACHER, who for some years was chemist at Messrs. Charles Macintosh & Co.'s works and subsequently started the London Rubber Manufacturing Co. at Deptford, which closed down about a year ago, has recently commenced business as a rubber merchant as H. Schumacher & Co., at 40, Great Tower street, London, E. C.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for May, 1905, and the first eleven months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
May.....	\$ 97,976	\$ 35,517	\$ 263,691	\$ 397,184
July-April.....	794,256	1,100,093	2,164,066	3,958,415
Total	\$892,232	\$1,135,610	\$2,327,757	\$4,355,599
Total, 1903-04.....	802,985	1,045,192	2,242,130	4,090,307
Total, 1902-03.....	753,236	1,006,982	2,075,925	3,836,143
Total, 1901-02.....	578,572	981,058	1,607,448	3,167,078
Total, 1900-01.....	508,873	684,256	1,584,864	2,777,993

BRAZILIAN IMPORTS OF RUBBER GOODS.

OFFICIAL statement of values (in milreis) during two calendar years [These figures doubtless fail to include many articles embracing more or less rubber, but classified under other headings than "manufactures of rubber."]:

ORIGIN.			DESTINATION.		
COUNTRIES.	1902.	1903.	PORTS.	1902.	1903.
Germany....	680,349	873,259	Manaos.....	48,925	77,640
United States	113,633	150,776	Pará.....	102,208	155,725
France.....	299,432	289,371	Pernambuco..	82,703	135,703
Great Britain	773,548	767,308	Bahia.....	82,125	89,728
Italy.....	127,952	189,872	Rio de Janeiro	1,109,855	1,244,261
All Other....	77,758	104,237	Santos.....	449,449	377,203
			Porto Alegre..	62,894	104,168
			Other Ports...	134,513	190,395

Total.....2,072,672 2,374,823

EQUIVALENT, with exchange at 12 pence, to:

	1902.	1903.
United States gold	\$502,332.92	\$573,913.81
Sterling.....	£103,633 12s.	£118,741 11s.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE BARKER MASSAGE MACHINE.

MASSAGE appliances involving the use of rubber have come into very widespread use. Hitherto massage movements have been applied first by the hand alone, and more recently with the aid of devices used by the hand. The illustration herewith relates to a mechanical device

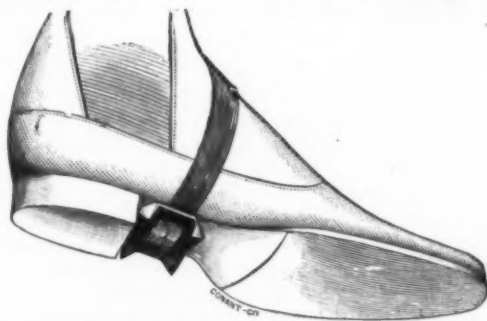


intended to combine the stroking, kneading, and vibrating movements all in one, which the hand *masseur* cannot do. Besides which, the rate of movement attainable is very many times greater than is possible in hand massage. Again, by the use of the machines the treatment can be applied for any desired length of time, while at best the movements of the hand *masseur* cannot be maintained for more than a few minutes continuously. The cut herewith illustrates the rubber brush used and the wooden handle by

means of which it is held and manipulated, the motion being given by means of a small electric motor (not included in the cut) which may be connected to an electric lighting or other similar current. This device was the subject of an award at the St. Louis Exposition in 1904 and has come into use in most of the cities in the United States, in large barber shops, massage parlors, and so on. [James Barker, Iron Foundry and Machine Works, Philadelphia.]

A SERVICEABLE ICE CREEPER.

WHILE dealers in rubber and other boots and shoes are detailing their orders for the coming winter trade, it may be timely to consider also the various accessory goods, the number and variety of which is constantly increasing. The cut relates to and illustrates the application of an Ice Creeper which can be used

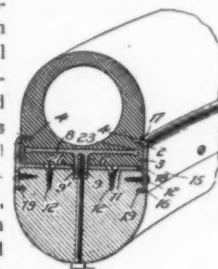


on rubber footwear of any style and also other boots and shoes. They can be put on or taken off instantly and with ease and are noiseless in use. There are no rivets or screws involved in their construction or application. The "Brattleboro" style is held in place with two rubber bands and the "Star" style with a leather strap. The metal points in these creepers are

referred to as being especially hard, which makes them more durable than any other article of this class in the market. [Dunham Brothers, selling agents for the United States, Brattleboro, Vermont.]

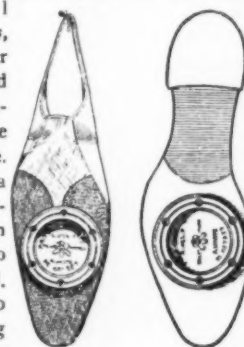
A NEW TIRE FASTENING.

UNITED STATES patent No. 789 937 relates to means for attaching a pneumatic rubber tire to the wheel rim, as indicated in part by the accompanying illustration. The tire has its base formed with a T shaped embedded space, the radial part of which forms a bottom continuous slot; binder plates within said space, each plate having screw bosses projecting through such slot; a wheel rim; channel plates one of which has an integral web secured to said rim, the said screw bosses passing through and engaging said channel web; and screw bolts passing through the rim and engaging said bosses, whereby the binder plate and the channel web are secured together, to the rim, and to the tire. The patentee is George T. Reed, of Baltimore, Maryland.



DUFF'S RING GRIP FOR GOLF BOOTS.

THE Ring Grip illustrated in the accompanying cuts is designed for attachment by small screws to the soles of leather boots, for the use of golf players and other sportsmen. They may be attached to any boot or shoe, thus often rendering it unnecessary to purchase special footwear for sporting use. As a further development of the idea the makers have brought out a rubber golosh (shown in the illustration on the left) with a heavy sole to which the spring grips are fitted. This handy footgear is intended to be slipped over an ordinary walking boot, does not extend beyond the sole, and has no heel but is kept in its place by a strap which passes around the heel. A pair of these goloshes weighs but little, slips readily into the pocket, and can be almost instantly put on in case a sudden dash of rain renders the footing uncomfortable. [Duff & Co., 10, Throgmorton avenue, E. C., London.]



THE "SURE FOOT" RUBBER HORSESHOE.

THE accompanying illustration relates not to a horseshoe pad merely, but to a horseshoe, every part of which is made of rubber except the straps and the buckles, which are of leather and metal. The shoe is intended to be worn over the ordinary steel shoe under certain circumstances, as for instance, on the street in slippery weather, or on lawns for the purpose of protecting them. But there are reasons at times why the shoe should be worn in place of the steel shoe, as for instance in case where the horse throws a shoe while driving, or the horse's hoof has been injured or is diseased. No nails or



irons are needed in keeping this shoe in place and it can be readily put on or taken off. The shoe is corrugated inside and can be applied to hoofs of different sizes by the adjustment of the straps. The bottom of the shoe is open for the purposes of ventilation, and to prevent the hoof from drawing and sweating. [The Mehlbach Saddle Co., No. 106 Chambers street, New York.]

THE "WEDGE LAP" ROBE FOR AUTOMOBILISTS.

AMONG the products of the extensive and long established robe manufacturers, L. C. Chase & Co. (New York and Chicago) there are now included a large list of robes designed to meet the requirements for wind, water, and dust proof covering, in weights, styles, and sizes especially adapted for automobile use. There are rubber robes, rubber interlined plush



robes, plush, leather, and linen dust robes, not to mention others, in the extensive catalogue of the firm name. The purpose of the present paragraph is to refer to the wedge shaped lap robe illustrated in an accompanying cut. This robe is made 80 inches long at the top and 65 inches at the bottom, which shape renders it well adapted for automobiles with wide seats and narrow body.

THE ARCTIC TONGUE SHIELD.

THIS is a small rubber article designed for the use of pipe smokers, for the purpose of breaking the direct stream of smoke on the tongue, making it cooler, and preventing it from biting the tongue. It is a small piece of soft rubber specially shaped and adapted to fit the mouthpiece of any pipe, rendering it soft and easy on the teeth. The article is intended to be retailed at 5 cents. [American Tongue Shield Co., No. 504 Ninth street, N. W., Washington, D. C.]

THE RUBBER GOODS PLAN.

TO THE EDITOR OF THE EVENING POST—*Sir*: Ought not shareholders of Rubber Goods Manufacturing Co. who have not accepted the Brady proposition to combine for mutual protection? If our company were to be wound up, that would mean par for the preferred, a stock which pays 7 per cent. dividends. What would it mean for the common, which we are told now can earn 8 per cent.?

The management of our company in the past has been able but utterly selfish. It is not the United States Rubber Co. which should have been the first to inform us that we can earn not less and probably more than the sum of \$1,800,000 yearly. The last annual report of our company admits a net income of only \$981,186.66.

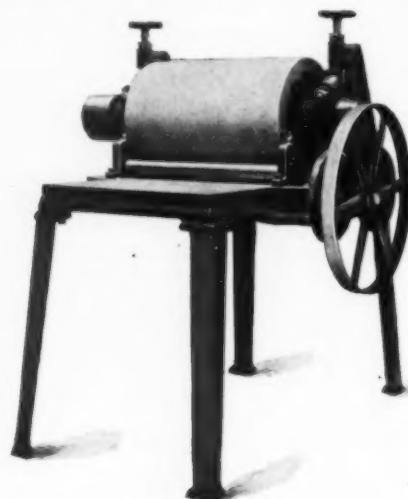
The mystery has remained impenetrable while speculators were accumulating our stock at low prices. They have now secured at least 60 for themselves, while depositing stockholders have received 50 per cent. only, in United States Rubber company second preferred stock.

A. HECKSCHER.

New York, June 27.

MACHINE FOR GRINDING RUBBER TILING.

A NEW machine designed for the grinding of either interlocking or sheet tiling of rubber is shown in the accompanying illustration. The necessity for grinding rubber tiling arises from the fact that the surface is apt to be slightly discolored by the preparation applied to the plates to keep it from sticking during vulcanization. The machine itself is quite simple, its salient feature being a large drum covered with emery or carborundum, held in place by glue, revolving at a speed from 1500 to 1800 revolutions a minute. The feeding is done by means of the friction of the grinding roll and the two



smaller rolls placed on the bed of the machine. The machine is made in two sizes, the larger taking tiling up to 4 feet in width and the smaller up to 2 feet and is adjustable for any thickness up to one inch. As tiling thickness usually varies from $\frac{1}{8}$ to $\frac{3}{8}$ of an inch it will be seen that there is ample clearance and adjustment for anything in that line. During operation very little is taken off by the grinding, the surface being left perfectly clean and absolutely even. Under ordinary conditions the goods are run through the machine but once, although in special cases they may be run through again and again without injury. This machine, which is now in use in some of the largest rubber factories in the United States, is manufactured by A. Adamson, Akron, Ohio.

BUKIT RAJAH RUBBER CO., LIMITED.

[See THE INDIA RUBBER WORLD, May 1, 1904—page 270.]

THE report presented at the second annual meeting of shareholders at the London office, on July 25, 1905, showed receipts for the first year of working of £8132 6s. 11d. [= \$39,576. gold] and expenditures on the plantation and in London of £8037 3s. [= \$39,112.80] leaving a balance of £95 3s. 11d., which was applied to writing off preliminary expenses. Sales of rubber included 5702 pounds of Pará at the average price in London of 5s. 9d., and 1009 pounds rambong (*Ficus elastica*) at 4s. 1d., average. There are now on the estate 138,589 rubber trees, of various plantings from 1897 down, and arrangements have been made to plant 200 acres with rubber this year. The manager estimates the rubber yield for the current business year at 25,000 pounds. Recent London quotations were £2 10d. and higher for full paid shares of £1 each.

PROGRESS IN RUBBER PLANTING.

REPORT OF THE MALAY STATES PLANTERS.

THE latest annual report of the United Planters' Association of the Federated Malay States devotes special attention to the cultivation of Pará rubber, which continues uppermost in the interest of the planters in that region. A favorable rate of growth is reported and the absence of pests and disease among trees. The year covered by the report was the first in which tapping had been done on a large scale, and the result was a better yield from the young trees than had been expected, and the prices realized equal to if not better than those for the finest of rubber from Ceylon. More new rubber estates were opened than in any former year and the extension of rubber acreage on the old estates was also larger. The total acreage planted with rubber in the Far East is estimated in the report as follows:

	Acre.
Federated Malay States and the remainder of the Malay peninsula.....	30,000
Sumatra.....	5,000
Java.....	5,000
Ceylon.....	25,000
India and Burma.....	5,000
Total.....	70,000

The report says: "We will take it for granted that this 70,000 acres is all good and that it will give a good yield of 200 pounds per acre = 14,000,000 pounds. This cannot all be in full bearing until the end of 1911, and no more than this 70,000 acres can be in bearing at the end of 1911 for it is not planted." In view of the growing demand for rubber, while the exports from Pará remain practically constant, the report takes the position that there is no reason to fear overproduction of rubber, since even the maximum output of Asia by 1911 would be hardly more than 10 per cent. of the present world's consumption. But even if rubber should be overproduced some day, it is felt that Brazil cannot compete with Asia with rubber at 25. 6d. per pound, at which price Straits and Ceylon rubber can be sold at a profit.

While most of the rubber above referred to is *Hevea*, *ram-bong* (*Ficus elastica*) continues to receive increasing attention and favorable results are anticipated, though little rubber of this species has yet come into bearing. The amount of plantation rubber exported thus far from the Straits is not stated, but a much larger yield is expected this year, owing to more trees now being ready for tapping.

"CASTILLOA ELASTICA" IN THE DUTCH EAST INDIES.

EXPERIMENTAL planting of various rubber species has been carried on for some time by the forestry department in the Dutch East Indies, and particularly in Java. *De Indische Mercuur* contains a résumé of the progress made, derived mainly from the latest annual report of the forestry department. It appears that total area planted with Caoutchouc yielding species under the auspices of the department to the end of March 1904, was 2476 hectares [=6118 acres], of which 992 hectares had been planted after January 1, 1903. The average per acre is small as compared with planting statistics in other localities, but this is due to the fact probably that the greater part is planted has been of *Ficus*, which requires more space than some other species. The number of young trees mentioned as having been planted is as follows: *Ficus elastica*, 317,000; *Hevea Brasiliensis*, 32,000; and *Castilloa elastica*, 36,000; total 385,000. Regarding *Castilloa* the report says that the condi-

tions of cultivation are favorable in many places, although in Japara many of the plants died when young, owing to the lack of experience of the planters. In the same district the plants suffered two years ago from severe storms. Given good soil and clean cultivation and a sufficient amount of light, the tree is reported to develop splendidly. In some localities a fungus appearing at the roots has caused the entire plant to dry out, though a small proportion of the trees appears to have been affected. At Genggeng some 10 year old *Castilloas* were reported to have died after the appearance of numerous small larvæ (*Bostrichidae*). This may have been a secondary cause, however, the real trouble perhaps being in an unfavorable location and soil. In Bodja the *Castilloa* was not injured by the porcupines, while the *Hevea* plants growing nearby suffered great damage from them.

SAN GABRIEL CO.

[Plantation at San Gabriel, near Playa Vicente, state of Vera Cruz, Mexico. Office: No. 189 La Salle street, Chicago, Illinois.]

INCORPORATED November 3, 1903, under Illinois laws, to acquire the "San Gabriel" sugar plantation, which had been developed by several citizens of Chicago for five or six years. They have 2650 acres near where the Vera Cruz and Pacific railway crosses the rio Tesechoacan. There are now on the estate some 4000 rubber trees which have grown so well that, while sugar planting will continue to be the chief interest of the company, they advise THE INDIA RUBBER WORLD: "We will each year put out some rubber, doing the work slowly and carefully taking advantage of the experience of other rubber planters and not looking for returns for say perhaps 8 or 10 years. Some may think we are a little too conservative, but we believe it is best to be on the safe side." Officers: Elmer J. Adams, president; Chesley R. Perry, vice president; Robert J. Kerr, secretary and treasurer.

GOOD RUBBER LANDS IN TABASCO (MEXICO).

TO THE EDITOR OF THE INDIA RUBBER WORLD: As a subscriber to your paper I beg to draw your attention and of all those who are interested in rubber culture to a certain part of the state of Tabasco, till now completely neglected, but which contains the finest lands imaginable for the culture of the *Castilloa elastica*. It is on the right bank of the Mezcalapa river, in the southern part of the state, and includes all the lands between the boundary of this state and the foothills of the mountains of the state of Chiapas. Thousands of wild rubber trees growing in this section are annually tapped by the natives, who, employing their destructive methods, kill or injure many trees. However, their number does not decrease, but on the contrary it seems to augment.

American capital has not invaded this territory, probably because it has few and bad roads, and hence has seldom been visited. Still the success obtainable in any kind of culture depends greatly upon the soil, and if there is any part of the state of Tabasco suitable for rubber culture, nature's finger points to this tract of land. It is about 150-200 feet above sea level, hilly, and well drained. Transport facilities are limited, and while this is a drawback for any plantation, it is not so much so for rubber culture. The lands I am specially referring to can be reached in the rainy season by water from San Juan Bantista, but in the dry season a trip of about 40 miles over land must be made to get to them.

WILLIAM C. DE WIT.

Cardenas, Tabasco, Mexico, March 14, 1905.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED MAY 30, 1905.

- N**O. 790,906. Tubular flexible article [tire cover or the like]. A. H. Marks, Akron, Ohio.
- 790,907. Method of constructing tubular flexible articles. *Same*.
- 790,914. Tire protector. H. P. Palin, North Attleboro, Mass.
- 790,954. Golf ball. C. Davis, Washington, D. C., assignor to Cambridge Mfg. Co., Wilmington, Del.
- 790,955. Golf ball. *Same*.
- 790,971. Flexible tube and connection. A. W. Nicholls, Chicago, Ill., assignor of one-half to F. P. Noera, Waterbury, Conn.
- 791,075. Pneumatic attachment for riveting and plate closing machines. H. A. Carpenter, Sewickley, Pa., assignor to Riter-Conley Mfg. Co., Jersey City, N. J.
- 791,100. Waterproof explosive cap for blasting purposes. E. W. Keith, Denver, and A. H. Boyd, Leadville, Colo.
- 791,345. Tire repairing device. O. F. Kadow, Cleveland, Ohio.
- 791,377. Stork neck for gas tubes. W. S. Stapley, Bridgeport, Conn., assignor to The Bridgeport Brass Co.

Trade Marks.

651. Pneumatic and rubber tires. C. L. Ireson, Boston. *Essential feature*.—The hyphenated letters I-C.
790. Rubber bath and flesh brushes, rubber complexion brushes, and rubber tooth and toilet brushes. C. J. Bailey, Boston. *Essential feature*.—The word BAILEY'S.
1715. Packing. S. R. Dresser, Bradford, Pa. *Essential feature*.—The representation of a cap inclosed in an elliptical frame. Above the cap appear the letters S. R. DRESSER'S and below the cap the letters CAP RUBBER.
1724. Rubber boots and shoes. T. Crowley, Lambertville, N. J. *Essential feature*.—The word TUNNEL associated with the pictorial representation of a crossed pick and shovel and a miner's cap and lamp.

ISSUED JUNE 6, 1905.

- 791,553. Gasket material. [Wire mesh and rubber.] R. C. Hance, Holmes, Wyo.
- 791,563. Rubber dam holder [for dentists' use]. R. F. Ludwig, Chicago.



791,562.

- 791,592. Rubber tire. J. A. Swinehart, Akron, Ohio.
- 791,648. Apparatus for making golf balls. F. H. Richards, Hartford, Conn.
- 791,649. Apparatus for molding playing balls. *Same*.
- 791,690. Comb. F. W. Grell, New York city, assignor to American Hard Rubber Co.
- 791,705. Hose coupling. A. B. Lees, Great Barrington, Mass.
- 791,774. Form for making seamless rubber articles. T. M. Gregory, Akron, Ohio, assignor to The Miller Rubber Mfg. Co. [Described elsewhere in this paper.]
- 791,787. Pneumatic breast strap [for horses]. C. T. Howard, Rosedale, Kans., assignor of one-half to J. O. McVey, Kansas City, Mo.
- 791,788. Pneumatic horse collar. *Same*.
- 791,946. Apparatus for casting playing balls. F. H. Richards, Hartford, Conn.
- 791,991. Rubber tire fastener for wheels. G. T. Reed, assignor of one-third to A. H. Beimschla, both of Baltimore.



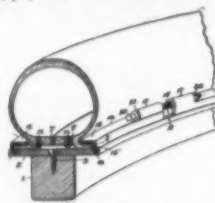
791,991.

Trade Marks.

- 2,515. Atomizers and bulb and fountain syringes. The S. H. Wetmore Co., New York city. *Essential feature*.—The word CENTURY.
- 2,650. Dress shields and protectors. The Canfield Rubber Co., Bridgeport, Conn. *Essential feature*.—The representation of a peacock with its tail extended in fan shape and the representation of a dress shield immediately on and concealing part of the tail.
- 2,651. Dress shields and protectors. *Same*. *Essential feature*.—The representation of a peacock perched on the concave edge of a dress shield with the tail of the peacock extending in front of and to a point below the convex edge of the shield.

ISSUED JUNE 13, 1905.

- 792,008. Pneumatic tire. P. E. Doolittle, Toronto, Canada.



792,008.



792,009.



792,075.

- 792,009. Tool for applying clincher tire casings to clincher rims. E. N. Downs, Chicago.
- 792,074. Hose coupling for hydrants. G. Rathbun, Peoria, Ill.
- 792,075. Vehicle tire. J. C. Raymond, New York city.
- 792,124. Fountain comb. W. H. Evans, Monticello, Ill.
- 792,130. Toy. P. Heftler, assignor to E. Storch, both of Vienna, Austria.
- 792,198. Vulcanizing mold [for forming rubber hose and tubing in long lengths.] H. Z. Cobb, Wilmington, Del.
- 792,206. Pyrograph. W. H. Figg, Washington, D. C.
- 792,227. Fireman's respirator. W. F. Merryman, assignor of one-half to H. R. Wolcott, both of Denver, Colo.
- 792,230. Hot air inhaler. N. K. Morris, Denver, Colo.
- 792,278. Bath brush. P. J. McCarthy, Providence, R. I.
- 792,290. Pneumatic tire. C. S. Sears, Toledo, Ohio.
- 792,299. Syringe [for dentists' use]. S. M. Weaver, Cleveland, Ohio.
- 792,348. Oxygen inflating device. T. P. Pomeroy, Freeport, Mich.
- 792,417. Hose or pipe coupling. W. S. Houser, Dubois, Pa.
- 792,555. Elastic tread. P. W. Pratt, Boston.



792,124.

Trade Marks.

- 2,799. Rubber heels for ladies' boots and shoes. A. E. Little & Co., Lynn, Mass. *Essential feature*.—The word SOROSIS inclosed in a circle.
- 2,859. Rubber belting. Gibbens & Stream, New Orleans, La. *Essential feature*.—The representation of a mosquito, associated with the word MOSQUITO.

ISSUED JUNE 20, 1905.

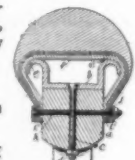
- 792,626. Hose coupling. J. H. Stephens, Vernon, Tex.
- 792,673. Grip tread for pneumatic tires. W. J. Smith, assignor to L. G. Fischer, both of Canastota, N. Y.
- 792,688. Cushion for shoes. E. J. Bliss, Edgartown, Mass., assignor to Tredair Rubber Co., Boston.
- 792,766. Tire for vehicle wheels. W. F. Ellis, Stamford, Conn., and E. C. Davis, New Brunswick, N. J., assignors to The Universal Tire Co., New York city.
- 792,767. Tire construction. *Same*.
- 792,844. Brake for rubber-tired vehicles. E. Perron and W. A. Sawyer, Rockland, Mich.
- 792,897. Vehicle wheel [with resilient tire comprising a series of springs and a rubber tread]. L. A. Hill, Washington, D. C.
- 792,898. Fountain pen. S. H. Hodges, South Glens Falls, N. Y.
- 792,921. Resilient tired wheel. J. Partington, Saltaire, England.
- 792,988. Fountain pen. S. H. Hodges, South Glens Falls, N. Y.



792,673.



792,921.



792,766.

Trade Marks.

758. Insulating varnishes and compounds for insulating purposes. Standard Varnish Works, New York city. *Essential feature*.—The word VO-TALAC, inclosed within a diamondshaped figure.
- 4,123. Insulating compound. Standard Underground Cable Co., Pittsburgh. *Essential feature*.—The word OZITE.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* Denotes Patents for American Inventions.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 24, 1905.]

- *2493 (1904). Elastic cushion for the inside of boot heels. E. J. Bliss, Edgartown, Massachusetts.
- 2605 (1904). Heel protector. M. Simpson, Johannesburg, Transvaal.
- [ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 31, 1905.]
- 2816 (1904). Golf ball [with sponge rubber core enveloping a center of various materials]. G. V. de Luca, London.
- 2982 (1904). Tire preserving mixture [of birch tar oil, coal tar benzene, and dissolved dextrine]. L. Lessmann and M. Weinkopf, Graz, Germany.
- *2997 (1904). Dental vulcanizer. J. F. Funck, Rochester, New York.
- 3088 (1904). Method of combining rubber and metal for tire threads, hose pipe, and the like. J. A. Mays, Hampstead, Middlesex.
- *3121 (1904). Fountain pen filler. L. Fisk, Woodcliff, New Jersey.
- *3213 (1904). Conduit for electric conductors. H. H. Lake, London. (J. S. Wilson, Chelsea, Massachusetts.)
- *3261 (1904). Valve for railway air brakes. British Thomson-Houston Co., London. (General Electric Co., Schenectady, New York.)
- 3203 (1904). Leather cover for pneumatic tires. E. Niederhäuser, Cologne, Germany.
- 3347 (1904). Heel protector. R. M. Howison, London.
- 3362 (1904). Flexible metallic tread for pneumatic tires. C. A. Brackelsberg, Düsseldorf, Germany.
- 3406 (1904). Rubber lined frames for packing earthenware, glass, and the like for shipment. H. Hobson, Longton, Staffordshire.
- 3410 (1904). Pneumatic tire [with leather protected cover]. S. Cooper, Milngavie, near Glasgow.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 7, 1905.]

- 3224 (1904). Means of securing pneumatic tires to wooden rims. A. T. Collier, W. G. Williams, and Collier Tyre Co., London.
- *3458 (1904). Rubber type and holders therefor. Addressograph, Ltd., London. (Addressograph Co., Chicago, Illinois.)
- *3506 (1904). Fountain pen. W. Bolles and J. L. Chase, Toledo, Ohio.
- 3530 (1904). Carpet cleaning apparatus. S. Simmons and H. Dansey, London.
- 3591 (1904). Method of securing rubber soles to leather boots. W. A. C. Matthews, New Dustan, Northamptonshire.
- 3601 (1904). Douche. F. Schutze, London.
- 3670 (1904). Tire inflator. B. L. J. Tollemache, Cirencester.
- 3749 (1904). Waterproof cape [stiffened at the edge by wires, to cause the rain to drip away from the wearer]. H. Brown, Winchfield, Hampshire.
- 3907 (1904). Pneumatic tire [with protected cover of short chains]. Count Siegfried, Wimpfen, Vienna, Austria.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 15, 1905.]

- 4017 (1904). Heel protector. J. R. Skinner, Christchurch, New Zealand.
- 4132 (1904). Pneumatic tire. E. Lee, Gosport.
- 4200 (1904). Vulcanizer for tire repairs. H. H. Frost, London.
- 4305 (1904). Antiskidding device for tires. Sainsbury's Anti-Skidders, Ltd., and J. Badger, London.
- 4351 (1904). Hose coupling. D. Worland, Victoria, Australia.
- 4353 (1904). Massage appliance. T. Hoffman, Berlin, Germany.
- 4354 (1904). Pneumatic boot. [A rubber air cushion is inserted between the insole and the outer sole.] L. Dewanne, Nirvelles, Belgium.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 21, 1905.]

- 4612 (1904). Inflatable toys. P. Heftler and E. Storch, Vienna, Austria.
- 4616 (1904). Inner tube for tires. F. Rich, Crawley, Sussex.
- 4623 (1904). Pneumatic tire. A. van der Stichelin, Ghent, Belgium.
- 4635 (1904). Surgical truss. A. D. Bateman, Manchester.
- 4744 (1904). Anti skidding device for tires. A. G. Rosser, London.
- 4933 (1904). Roller skates with pneumatic tires. E. Theysohn, Pirma-sens, Bavaria.
- 4960 (1904). Golf ball. R. Appleyard, India-rubber, Gutta-Percha, and Telegraph Works, Silvertown.

4987 (1904). Enema syringe. H. Lambert, London.

- *5014 (1904). Pneumatic tire [rendered puncture proof by metallic shield]. M. Miller and J. A. Bunnell, Clyman, Wisconsin.
- 5063 (1904). Heel protector [having its wearing surface composed of independent parts, each of which may be removed and replaced by others when worn]. T. T. Spencer, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, JUNE 28, 1905.]

- 5265 (1904). Nipple and stopper for nursing bottle. E. W. Harrison and T. Webb, St. Helens.
- 5287 (1904). Elastic tire. A. Spencer, London.
- 5314 (1904). Pneumatic tire [with protective tread]. P. T. Somerville-Large, Kilcullen, County Kildare.
- 5345 (1904). Pneumatic tire [with spoon shaped shield]. J. Hardie and F. H. Cooper, Erith, Kent.
- *5359 (1904). Printers' blanket. J. E. Rhodes, Brooklyn, New York.
- *5365 (1904). Mud guard for tires. W. Lintern, Westpark, Ohio.
- 5615 (1904). Pneumatic tire [protected from puncture by metal shields]. F. Schmidt, Itchen, and C. Sharp, Woolston, Hampshire.
- 5643 (1904). Heel protector. C. P. Horton, Birmingham.
- 5686 (1904). Pneumatic tire [with puncture preventing bands of steel wire loops]. F. H. Richardson, Sunderland, Durham.
- 5687 (1904). Inflatable life saving belt. E. Manco-Schnurer, Paris, France.
- *5721 (1904). Pneumatic tire [protected against puncture by cork lining of the tread]. M. van B. Rush, Anderson, Indiana.
- 5756 (1904). Pneumatic tire [with anti skidding device]. T. Stewart, Bolness, Linlithgowshire.
- 5810 (1904). Rubber and metal tread [for heel pads, horseshoes, stair treads, and the like]. W. S. Cort and G. L. Porter, Market Harborough.
- 5827 (1904). Leather cover for pneumatic tires. M. Korth, Cologne, Germany.
- 5830 (1904). Elastic tire. E. C. F. Otto, London.
- 5833 (1904). Fountain pen filler. Bewley & Draper and H. C. Draper, Dublin.
- 5858 (1904). Pneumatic toy. T. Dowler, Manchester.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION).

- 349,406 (Dec. 16, 1904). Guerry and Duperay. Impervious cotton cloth covering for pneumatic fittings.
- 349,420 (Dec. 22). E. Lafosse and F. Daligault. Tires with anti skidding device.
- 349,475 (Dec. 7). H. Stein. Shoes with invisible elastics.
- 349,481 (Dec. 14). J. J. Collet. Composition for pneumatic tires.
- 349,488 (Dec. 22). L. Fougeadoire. Rubber for enlarging and reducing drawings used in pantograph machines.
- 349,501 (Dec. 23). Rousset Freres. Shoes with rubber soles pasted over leather soles.
- 349,503 (Dec. 23). Michelin & Cie. Process and device for inflating pneumatic automobile tires.
- 349,527 (March 31). C. E. Giovetti, Grundler and Haberer. Process and device for the extraction of sap, latex, and all liquids from trees of all kinds, and especially from those producing Caoutchouc and Gutta-percha.
- 349,561 (Dec. 27). F. E. Bowers. Protective covering for rubber tires.
- 349,615 (Dec. 27). J. E. Hopkinson. Elastic tires.
- 349,646 (Dec. 28). A. Boucher. Rubber tire protector.
- 349,801 (Dec. 31). M. C. A. Lapsolu. Pneumatic tire with articulated metallic covering.
- 349,812 (April 12). A. E. Vincent. Machine for the manufacture of pneumatic tires.
- 350,557 (Jan. 6, 1905). J. Oliver. Leather and rubber tire for vehicle wheels.
- 350,561 (Jan. 6). P. W. Litchfield. Pneumatic tire.
- 350,702 (Jan. 11). P. J. Schmitz. Heel with rubber insertions for gaiters.
- 350,716 (Jan. 12). A. Chaurion. Non skidding seamless leather pneumatic tire.
- 350,754 (Jan. 14). A. Bisse and E. Aurange. Detachable rubber saddle pads for horses.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, post paid.]

THE GERMAN EMPIRE.

PATENTS GRANTED.

- 161,709 (Class 47d). Method of making waterproof cords. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien. May 24.
 161,710 (Cl. 54d). Attachment for envelope making machine. G. Lengner, Berlin. May 24.
 161,750 (Cl. 63e). Tire inner tube with textile reinforcement. E. Lange, Gotha. May 24.
 161,760 (Cl. 64b). Preserve jar ring. J. Weck, Offingen, Baden. May 24.
 161,885 (Cl. 63b). Elastic tire. The Resilient Hub Syndicate, Ltd., London. May 31.
 161,886 (Cl. 63e). Tire composed of connected elastic rings. V. Guel-dry, Paris. May 31.
 162,033 (Cl. 63e). Tire fastening device. F. K. Wiessier and others. Dresden. June 7.
 162,147 (Cl. 63e). Tire with cross ribs on the tread. L. P. Faison-Golconda. June 15.
 162,130 (Cl. 63e). Process for making pneumatic tires. T. Birtwistle, Pendleton, England. June 15.
 162,376 (Cl. 39a). Machine for cutting hard rubber stoppers. E. Rouge, Frankfurt o/M. June 15.
 162,264 (Cl. 63e). Fastening device for covers of motor cars. K. Lehman, Wilmersdorf. June 15.
 162,383 (Cl. 63e). Tire inner tube. F. Veith, Odenwald. June 15.
 161,832 (Cl. 34g). Elastic bottom for beds. H. Westphal, Berlin. May 31.

DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER.]

- 250,668 (Class 30e). Air cushion for invalids. Frau M. Frickmann, Hildesheim. May 24.
 250,769 (Cl. 30g). Nipple for nursing bottle. F. Wenzel, Kenditz. May 24.
 249,544 (Cl. 63e). Anti skidding tire cover. R. Hauschild, Schandau. May 24.
 250,800 (Cl. 63e). Anti skidding motor tire. K. Horneck, Frankfurt o/M. May 24.
 250,331 (Cl. 64a). Bottle stopper. Metzeler & Co., Munich. May 24.
 250,566 (Cl. 65a). Life saving belt. Friedman and Hollander, Paterson. May 24.
 250,602 (Cl. 71a). Heel protector. I. Reizck, Craig. May 24.
 250,707 (Cl. 77a). Exercising apparatus. Wilhelm Anhalt G.m.b.H., Kolberg. May 24.
 250,744 (Cl. 77e). Football bladder. Vereinigte Gummiwaaren-Fabriken, Harburg-Wien. May 24.
 251,498 (Cl. 30g). Nipple for nursing bottle. F. Wenzel, Schkenditz. May 31.
 250,946 (Cl. 34c). Pneumatic ball for cleaning glasses. M. Binger. May 31.
 251,429 (Cl. 63e). Rubber protector for motor tires. Continental Caoutchouc and Guttapercha Co., Hanover. May 31.
 251,108 (Cl. 70b). Fountain pen. Columbus Werke, Furth. May 31.
 251,715 (Cl. 21c). Metal tubes lined and joined with vulcanized rubber. Dr. H. Traun & Sohne, Hamburg. June 7.
 251,810 (Cl. 30d). Dental plate with elastic edge. E. Phelen, Düsseldorf. June 7.
 252,015 (Cl. 63e). Solid tire with retaining wire inside. M. Pollack, Waltershausen. June 7.
 252,874 (Cl. 63e). Tire inflator. G. Leitner & Co., Berlin. June 16.
 252,253 (Cl. 77a). Gymnastic apparatus. Wilhelm Anhalt G.m.b.H., Kolberg. June 15.
 252,907 (Cl. 77a). Gymnastic apparatus. Same. June 21.

PATENTS APPLIED FOR.

- 38,153 (Class 69). Button for bayonets. S. C. Brons, Amsterdam. May 10.
 20,304 (Cl. 64b). Elastic connection for racking sparkling liquids. G. Gruzewsky, Berlin. May 10.
 22,739 (Cl. 63e). Tire protector. R. and C. H. Wallwork, Manchester, England. May 17.
 18,898 (Cl. 63e). Solid rubber tire. James A. Swinehart, Akron, United States. April 19.
 9,558 (Cl. 63e). Elastic tire. Charles Henry John Chetwynd Talbot, Earl of Shrewsbury and Talbot, London, England. April 19.
 27,453 (Cl. 63e). Pneumatic tire protector. W. Kaulhausen, Aix la Chapelle.

COMBINATION OF RUBBER AND METAL.

LETTERS patent issued at Washington (No. 793,181—June 27, 1905) relate to a composition of matter, whereby rubber is combined with fibers of metallic wool and the whole vulcanized. The object is to secure greater durability in tire treads, boot heels, and other articles in which resistance to wear is desirable, while retaining the elasticity and pliability of rubber. The proportions of rubber and metallic fiber may be varied, according to whether the composition is required for heels, tires, or other uses; the metallic fibers may be distributed uniformly through the mass, or so arranged as to form layers embedded in the rubber. The latter arrangement is referred to as particularly desirable in pneumatic tires, as a protection against puncturing.

One method of effecting the combination is by placing the metallic fibers in a mold and pouring rubber solution over them. Although the article known commercially as "steel wool" is at present the only commercial commodity which the patentee finds feasible for carrying out his invention, he does not limit his claim to that specific material, inasmuch as any metallic elongated fiber will answer the purpose so long as it possesses the qualities of tensile strength and elasticity and is of a crumpled character or form like the fibers of steel wool. The inventor is James P. Crane, Chicago manager of the Franklin Life Insurance Co.

[Mineral cotton is a fiber formed by allowing a jet of steam to escape through a stream of liquid slag by which the slag is blown into fine white thread. It is a poor conductor of heat and is, therefore, suggested as a covering for steam boilers and pipes. A variety with short fiber is called mineral wool and is used as a non conductor of heat, or a deafening for floors.]

FORM FOR SEAMLESS RUBBER GOODS.

IN the specification of United States patent No. 791,774, relating to a form for making seamless rubber articles, the inventor, Thomas M. Gregory (Akron, Ohio), refers to the liability of hot water bottles, syringe bags, and the like to develop leaks where the edges of the parts constituting the articles are joined together to complete the manufacture. The object of the new invention, therefore, is to provide forms for the manufacture of hollow rubber articles by dipping into rubber solution, which forms may be removed after the completion of the bottle or bag, leaving the latter entirely without seams and therefore of equal strength at every point. Such removal of the form requires its destruction, so that only a single use of the form is possible; but the invention does not require expensive material or expensive labor in the manufacture of the form, and a paper pulp or a suitable grade of paper stretched upon an edging or border frame, say of laminated paper glued together and thus made temporarily rigid, will suffice, though the inventor does not limit himself to any special material or manner of getting the same out of the bottle or bag. The patentee refers to the use of shellac on the outer surface of the paper form, or other treatment, to give a smooth finish which the rubber cement does not penetrate and upon which it will adhere and make an even unbroken deposit.

WHEN WILL THAT BE?—The Durango Democrat says that the Rocky Mountain Crude Rubber and Development Co. is a fake. It is to be supposed that when this company, which is composed of some of Salida's representative men, begin to turn out the crude rubber the editor of the Democrat will be convinced that it is not a fake.—Salida (Colorado) Record, May 26

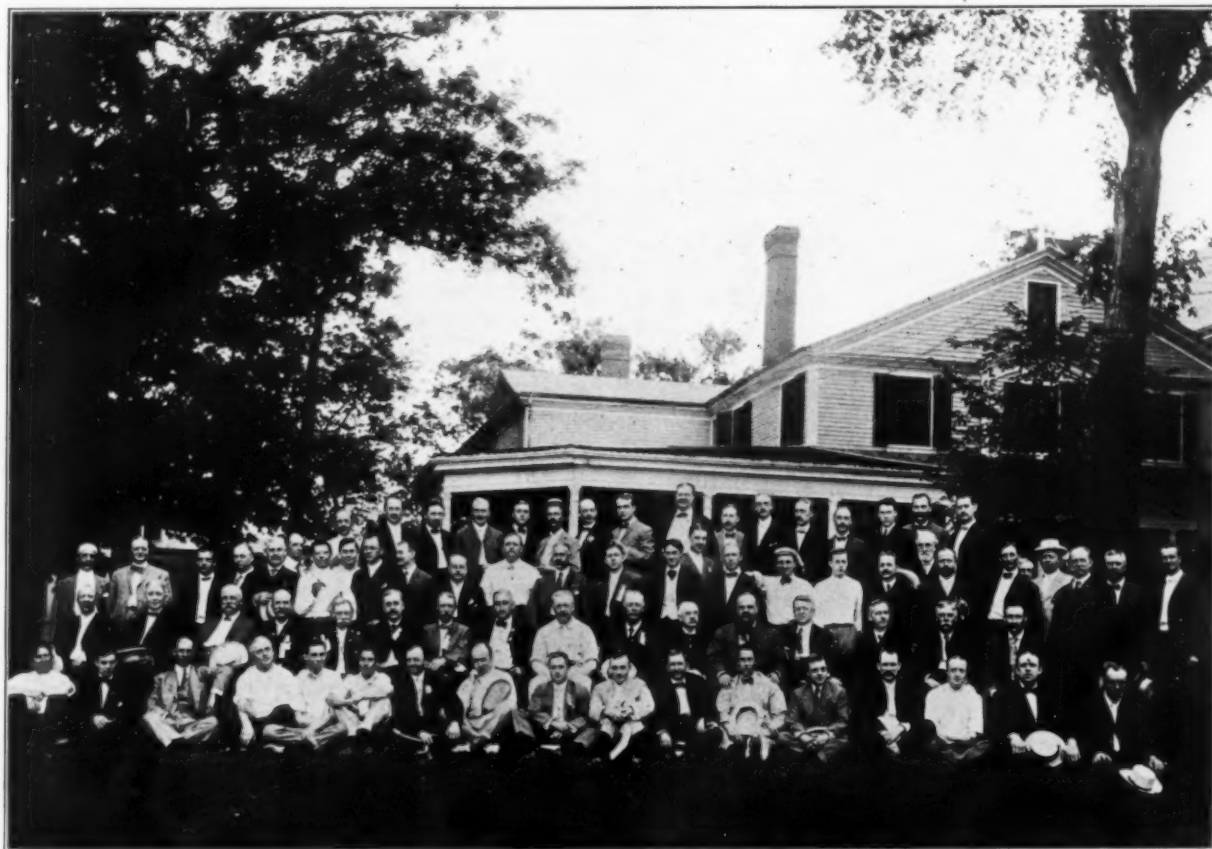
SUMMER OUTING OF THE NEW ENGLAND RUBBER CLUB.

(Boston, July 19, 1905.)

THE BALLAD OF THE RUBBER CLUB OUTING.

THEY started off in autos from before Hotel Touraine, with golf clubs for umbrellas, because it threatened rain. In the "sight-seeing" autos they left the sweltering Hub, up hill and down through Brookline town they sought the Country Club.

and when the catcher missed the ball just stopped it with his chest. When Stedman laboring down from "first" stopped to embrace Fred Hood, he called him "out" on second base, as any umpire would. Then when Ben Pearson slid ten yards and knocked third base away, he got a tub and filled it up and put it there to stay. The players then approaching "third" came



Upon the broad piazza some sat to chat and smoke, while Taft strolled round and told each one the last insurance joke. The thirsty ones hurried within and crowded side by side, big lemonades, cold "horse's necks," and other liquids tried. Then golfers started o'er the links to play their handicaps, in swinging "drive," subdued "approach," and gentle "putting" taps. The "minor sports" fell very flat, due partly to the rain. (A bit more ginger needed there, to put the matter plain.)

Between two showers a photograph of all the crowd "at ease," was taken, helped by this remark: "Now all look pleashant pleath." Recorder Putnam striding round with kodak panoram, wished that he might effectually the falling water dam.

The special feature of the day then came, the game of ball, between the Manufacturers and "Crude" Importers all. Andrews (Columbus), umpire, passed on each important play; when Kelley kicked or Barker bluffed he took his own sweet way. He held them to Ohio rules and made them play their best,

with exceeding care, for bottles lying in the ice furnished refreshment there.

There were scores of funny errors, yet good plays for all of that, you should see "Zacualpa" Farrington take hot pitching off the bat. Good work was done by Balderston, by Chipman, and by Paine, and the nines played out five innings in spite of dripping rain. The score at the finish stood eleven to twenty-two; the Importers got the best end as folks say they always do. Then they gathered all for dinner, marching in one hundred strong, and they ate, and drank, and jollied, bursting often into song. The dinner was a daisy, both in service and *cuisine*. (That's a French word; better skip it if you don't know what I mean.)

To appreciate good music you never will, nor can, till you hear Bill Barker carolling "A Bold Bad Man." And when Bill Kelly joins him in a megaphonic bass, you can hear the ear-drums bursting all about the blessed place. A speech by Mr.

Arthur Reeve was sandwiched in just here; 'twas mighty well delivered but the words we couldn't hear. Then the prizes were awarded for golf, both gross and net; how the "minor sportsmen" earned their gifts the boys are wondering yet. Then came a rising vote of thanks, given with hearty cheers: "To the members of the Country Club, kind hosts for many years!"

THE BALL GAME.

THE base ball game between the Manufacturers and Importers, resulting in a score of 22-11 in favor of the latter, was, as reflected in the score, a brilliant five inning effort. The players, their positions, and the runs scored, were as follows:

MANUFACTURERS.		IMPORTERS.	
Balderson, 3b.....	1	Chipman, 2b.....	2
Pearson, 1b.....	3	Stedman, s.s.....	1
Estey, r.f.....	3	Paine, 1b.....	4
Barker, p.....	1	Kiley, p.....	3
Phipps, s.s.....	1	Farrington, c.f.....	5
Allen, c.....	0	Thomas, 3b.....	4
Stevens, l.f.....	1	Kelley, c.....	1
Rice, c.f.....	0	Dunbar, l.f.....	1
Hood, 2b.....	1	Currier, r.f.....	1
Total.....	11	Total.....	22

THE GOLF PRIZES.

CLASS A.—Best net, R. E. Payne, silver tankard. Best gross, F. C. Hood; second best net, F. D. Balderston; second best gross, H. C. Mason—each one dozen golf balls.

CLASS B.—Best net, William J. Kelley, silver pitcher; second best net, G. E. Habich, one dozen golf balls.

GUESTS' PRIZE.—Best net, M. V. Bouve, cigar jar.

The prizes for minor sports, which were small souvenirs intended to appeal to the humorous side of those present, were awarded to President John H. Flint, Treasurer George P. Whitmore, Secretary Henry C. Pearson, Umpire Andrews, W. M. Farwell, P. L. Rider, Harry Jones, R. S. Johnson, and Charles H. Arnold.

FROM THE REPORTER'S NOTES.

HONORARY VICE PRESIDENT L. D. APSLEY, knocked out by the hot weather, sent word at the last minute that he could not attend.

Assistant Secretary E. E. Wadbrook, who did so much to make the outing a success, fled from Boston a few days before the dinner to escape from hay fever, and so missed seeing the fruition of his labors.

The *chef* of the Country Club achieved a great success both

in the creation and in the serving of the dinner. It was by far the best in those particulars that the New England Rubber Club has ever had. Ices were served in tiny flower pots, from the middle of each of which sprang a miniature rubber plant of the *Ficus elastica* sort.

Music for the afternoon and evening was furnished by the full military band of the Lynn Cadets and was excellent.

All of the officers wore badges upon which the name of the office held was printed in gold letters—that is, they wore them until Benjamin Taft began to quietly lift them and decorate Mr. Henry C. Morse with them. In the end he fairly glittered with adoration, looking like a Russian admiral.

One of the members of the Club, Dr. Joseph C. Stedman, is the composer of a popular air known as the "Coast Artillery March," which was played by the band during the dinner and evoked much appreciative applause.

William J. Kelley put in a most strenuous day, visiting his old time customers in the forenoon, playing golf and base ball in the afternoon, and eating and singing with great gusto in the evening.

Dr. Alberto Pirelli, of Milan, Italy, who hoped to be present, wired from Niagara Falls his regrets at being unable to reach Boston in time for the dinner.

Before the ball game Fred T. Ryder and E. L. Phipps knocked up flies for fifteen minutes to limber up the fielders. Both showed that they were good ball players.

H. E. Kiley who pitched for the "Importers" team, and who did fine work, is one of the juniors in the Boston firm of Poel & Arnold. That firm, by the way, was further represented by C. H. Arnold, who is summering at Stoneham, Mass., and William J. Kelley, whose exploits are mentioned elsewhere.

F. H. Jones and his dinner committee merit much praise for the way in which the whole dinner was handled. The big dining room, the seating, the decorations—indeed the whole was as near perfect as possible.

Treasurer Whitmore, untiring, modest, was as ever at infinite pains to see that all the details that go so far toward success be attended to, each in their order. A worker, not a talker, is he, and his popularity is universal.

President Flint, although, as he told the gathering, without special gifts either as orator or a singer, lent by his presence an atmosphere of geniality and unaffected enjoyment that made things move very smoothly.

W. D. Brackett, although no longer a manufacturer of rubber footwear, is an enthusiastic member of the Club, and always attends the dinners and outings, a testimonial of genuine interest

LIST OF THE CLUB MEMBERS PRESENT AND THEIR GUESTS.

[The members are named first, followed by names of guests "indented"]

Alden, G. Edwin	Stephen W. Bourn.	F. C. Hatch.	Keyes, Wm.	Paine, Robert E.	Solberry, Albert F.
Apsley, L. D.	Barnard, O. A.	Farrington, Wilbur E.	Eben W. Keyes.	Patterson, J. S.	W. H. Jones,
Arnold, C. H.	Two guests.	Flint, John H.	Knowles, Winfield S.	Phillips, Edwin L.	Baltimore.
W. H. Arnold.	Chipman, R. L.	Farwell, W. M.	Lowenthal, Max	Powell, W. B.	H. F. C. Dovenmeuble
Appleton, F. H.	Currier, Jr., Geo. O.	Fuller, W. P.	Learned, Jas. W.	Alex. S. Browne.	Chicago.
Allen, Horace P.	Comstock, A. L.	Gillett, S. Lewis	One guest.	Pitcher, W. L.	Swasey, Walter S.
Brackett, W. D.	Crocker, Isaac	A. L. Aldrich.	Locke, Frank S.	Pearson, E. B.	A. L. Johnson.
Barker, W. E.	Elmer E. Dorman.	Glidden, Alfred A.	Leach, Ellsworth	Pearson, Henry C.	Marshall Bouve.
J. W. Work.	Fred A. Jewell.	Hood, Frederic C.	Mayo, Geo. H.	Rice, Robert L.	J. Edw. Dulton.
Geo. C. Dutton.	Geo. I. Crocker.	Hewins, E. D.	W. H. Mayo.	Reeves, Arthur	Stevens, W. F.
Bassett, Theo. W.	Clapp, A. W.	Hyatt, E. S.	Mason, H. C.	Rice, Joseph M.	Two guests.
Baird, Robt. B.	Clapp, E. H.	Higginson, Fred.	Moses, Fred. L.	Rice, Edw. R.	Taft, Benjamin
Robt. W. Poorman.	Coe, Chas. A.	Habich, G. Edw.	Geo. A. Patten.	Rider, P. L.	Tucker, Frank W.
Two others.	Two guests.	Jones, F. H.	McTernan, Andrew	Ryder, F. T.	Whitmore, Geo. P.
Baker, Chas. F.	Daggett, W. A.	Joseph Kelley.	Morse, H. C.	Two guests.	Wanning, H. F.
Two guests.	Dunbar, J. F.	Jacoby, Ernest	One guest.	Stedman, A. W.	Two guests.
Balderston, F. D.	F. E. Nason.	Johnson, Ralph S.	Nickerson, Henry	Schlosser, Geo.	Kiley, H. E.,
Bowers, R. J.	Dorr, R. L.	Kelley, W. J.	Odell, James E.	Spear, Alonzo P.	Guest of Club.
Bourn, A. O.	Edgarton, C. F.	L. H. Thomas.	Putnam, Geo. E. B.	Stedman, J. H.	

[A few members came in after this register was made.]

RUBBER INTERESTS IN EUROPE.

INCREASE OF CAPITAL OF THE "CONTINENTAL."

AT a special meeting of the shareholders of the Continental Caoutchouc- und Guttapercha-Compagnie (Hanover, Germany) on June 27 the proposal of the board to increase the capital of the company from 3,000,000 to 4,200,000 marks was adopted without debate, after a statement by Herrn Siegmund Seligmann, one of the directors, of the considerations which had prompted this motion. He stated that the demand for the products of the Continental company had shown an exceptional increase, and that the limit of the company's capacity with the means now at its disposal had been reached. Anticipating the action of the shareholders at this meeting, the erection of extensive new buildings for increasing the capacity of the company's plant had already been commenced. It was resolved to issue 1000 new shares of 1200 marks each, in all respects equivalent to the 1200 mark shares outstanding, except that for the fiscal year 1904-05 these new shares shall have a claim to only one half of the proportion of the net profits to be paid for the year on each of the old shares. The board is empowered to assign the whole new issue to the firms of Bernhard Caspar, B. Magnus, Mendel & Rosenthal, and D. Peretz, all of Hanover, at the rate of 240 *per centum*, plus the cost of revenue stamps and other expenses, said firms being obligated to offer the entire amount to the existing shareholders on the terms that the owner of 3000 marks in old shares shall be entitled to 1200 marks of the new issue at 247½ *per centum* within 14 days. The capital of the company hitherto has consisted of 1500 shares of 600 marks each and 1750 shares of 1200 marks each; the number of shares of the latter denomination is now increased to 2750. Director Seligmann stated after the meeting that it had not yet been possible to increase the price of rubber goods, notwithstanding the increased cost of crude rubber, but that the larger volume of sales had made up the difference.

JOHNSON & PHILLIPS, LIMITED.

THIS company was registered in London, June 17, 1905, with £175,000 capital in ordinary shares and £175,000 first mortgage debenture stock, to take over as a going concern the business of Johnson & Phillips, electrical, telegraph, and general engineers and cable makers, of Victoria Works, Victoria road, Old Charlton, Kent (London office at 14, Union court, Old Broad street, E. C.). The business was established in 1875. Samuel Edmund Phillips died in 1893, leaving as sole proprietor Walter Claude Johnson, who has taken little active part in the direction of the business since 1900, and the formation of the new company is to enable him to retire. The conduct of the business has during this period been left almost entirely in the hands of the general managers, Messrs. John Macgregor and F. Sydney Paterson, who will continue their services to the company. The purchase price payable by the new company has been fixed at £305,000, payable in cash, debenture stock, and ordinary shares, and the assets of the business have been certified by a firm of chartered accountants as being worth fully this amount, without including any estimate of the good will of the business which, however, is included in the sale. The issues of the new company are planned to provide £45,000 additional working capital.

DUNLOP PNEUMATIC TYRE CO., LIMITED.

THE directors of this company have been attempting of late to give effect in the sense of the annual shareholders' meeting of November last, that a material reduction should be made in the capitalization of the company. A scheme to this end was

proposed as early as 1901, with a view to anticipating the expiry of the patents which took place in September, 1904, but this failed to meet the approval of the shareholders. The expiration of the patents made them disappear from the balance sheet as an asset, and left good will figuring alone for the large sum of £3,894,071, which was unreasonable for a trading company whose profits in the last fiscal year, after paying administrative expenses and debenture interest, were only £105,614. It is felt now that the company is obliged to enter upon some plan of reconstruction, and a circular to the shareholders under date of June 15 outlined a plan which may be summarized as follows:

[The company was registered on May 6, 1896, with a debenture capital of £1,000,000 and share capital of £4,000,000.]

PRESENT ISSUED CAPITAL.

THE shares at present issued, with the respective rights attached thereto, are as follows:

Five per cent. cumulative preference shares of £1 each, having priority as to capital and dividends.....	£ 994,990
Eight per cent. cumulative ordinary shares of £1 each, preferential as to dividend, but not as to capital.....	999,993
Deferred shares of £1 each, entitled to all surplus dividends.....	1,999,850
Total present share capital.....	£3,994,833

PROPOSED CAPITAL.

IT is proposed that the share capital shall consist of:—
 994,990 £5 per cent. cumulative preference shares of £1 each, preferential as to capital as well as dividend, as at present..... £ 994,990
 916,643 "new ordinary" shares of £1 each in lieu of the existing ordinary and deferred shares..... 916,643

Total new share capital..... £1,911,633

PROPOSED DISTRIBUTION OF THE NEW SHARE CAPITAL.

THE existing preference shareholders will retain their 994,990 five per cent. cumulative preference shares of £1, preferential as to capital and dividend (involving no change)..... £ 994,990
 The new ordinary shares will be distributed as follows:
 To the existing ordinary shareholders 666,662 "new ordinary" shares of £1 each, *i. e.*, two shares in the reduced capital, for every three shares of present capital, cancelling all arrears of dividend..... 666,662
 To the existing deferred shareholders 249,981 "new ordinary" shares of £1 each, *i. e.*, one share in the reduced capital for every eight deferred shares in present capital..... 249,981

Total..... £1,911,633

A meeting of shareholders dissatisfied with the proposed scheme of reconstruction was held in Dublin on July 4. The basis of their objection lies in the fact that whereas the dividend on the preference shares has been regularly met, the ordinary shares were in arrear, as to their dividend, up to September 30, 1904, to an amount of £244,998 5s. 8d., and some of the holders of the latter are unwilling to abandon all claim to this large amount. A committee was appointed at the Dublin meeting to arrange for a conference between the ordinary and other shareholders to discuss and promote a scheme which should be more satisfactory to all parties in interest.

CLAUDIUS ASH, SONS & CO. (1905), LIMITED.

THE above named company was registered in London, July 17, 1905, with a capital of £1,000,000 [= \$4,866,500], divided equally into preference and ordinary shares at £1 each, to acquire and carry on the business of Claudius Ash & Sons, Limited, dealers in dental materials, and Ash & Co., sole manufacturers to the before mentioned company of mineral teeth, dental rubbers, and materials. The original firm of Claudius Ash & Sons, founded about the year 1825, carried on both businesses until 1889, since which time the businesses, though separate, have been carried on in close association. The growth and de-

velopment of the two businesses have been so considerable that it is now deemed expedient that the merchants and manufacturers shall be reunited in one concern with a capital adequate to meet the present requirements and afford further opportunities for developing and expansion. The combined profits of the two businesses for the five years ended December 31, 1904, are certified to have been as follows:

In 1900	£53,344 4 6	In 1903.....	£75,987 5 1
In 1901.....	66,300 13 0	In 1904.....	71,869 6 7
In 1902.....	66,887 12 6		

The businesses involved include not only the British factories and headquarters in London, but important selling depots throughout continental Europe.

RUSSIA.

THE profits of the Russian-American India-Rubber Co. (St. Petersburg) for the business year 1904-05 amounted to 3,908,754 rubels [= \$2,013,008.31]. The dividend for the year is 1,800,000 rubels, or 30 per cent. on 6,000,000 rubels of capital shares. The capital has been increased to 6,500,000 rubels during the past year.

GERMANY.

MAX WERTHEIM, managing director of Frankfurter Asbestwerke Aktiengesellschaft (vormals Louis Wertheim) since the formation of that company, eight years ago, resigned his connection with them on June 30. He had previously been active in the firm of Louis Wertheim, Frankfurt o/M., since 1887.

VIEWS OF MR. E. V. CAREY.

FROM "THE STRAITS TIMES" (SINGAPORE), JUNE 13.

MR. E. V. CAREY, of Selangor, returned from a trip round the world by the P. & O. s.s. *Simla*, Saturday, and leaves here for Kuala Lumpur to-morrow.* During his travels Mr. Carey visited the St. Louis Exhibition, after which, he declares, nothing else that he may ever see in this life will ever surprise him. It was magnificent, but would have taken as many months to see properly as he had days at his disposal.

In New York he was discovered by Mr. H. C. Pearson, of THE INDIA RUBBER WORLD, who it will be remembered, made a professional tour of this part of the world a couple of years ago. Mr. Pearson was full of enquiries about the friends he had made in the Straits, and endeavored to reciprocate the courtesies that had been extended to him here by introducing Mr. Carey to all the rubber men in the American metropolis. Of these men he noted that they differed from the big English merchants of the same approximate class in the fact that they were so accessible and so ready to leave the business of the moment so as to put their time at the disposal of the properly introduced stranger. How they made up for the time so lost he does not know; but their hospitality and courtesy were alike wonderful.

He notes that they have at last awakened to the importance and necessity of cultivated rubber and have now started cultivating rubber of their own in Nicaragua. Some New York and other large manufacturers have already opened up plantations in that Central American state, where, so far, they have only planted the *Castilloa*, which is just beginning to be productive. Mr. Carey expects that these plantations will be followed by further developments of the territory referred to as a source of rubber supply to the North American markets; but the labor conditions in that part of the world do not tend so favorably to the development of such an industry as do those which obtain in the Straits.

*A portrait and sketch of Mr. Carey appeared in THE INDIA RUBBER WORLD, January 1, 1905 (page 108), following his visit to the United States.—THE EDITOR.

Mexico is also being largely planted with rubber—it being said that there are many "wild-cat" plantation schemes in the latter country, boomed by queer firms in the United States. In both countries *Castilloa* is the only plant cultivated—the *Pará* being neglected because of the success met with by the other. The products of the plantations so far turning out cultivated rubber are of remarkably good quality, and that quality is improving rapidly.

From what Mr. Carey saw at home [in England] just prior to his departure for the East, he is disposed to warn people against flying into every investment that is thrust upon the market merely because it bears the magic name of rubber. He advises them to look into every such investment most carefully, as there seems a disposition to float unsound concerns in connection with estates in Ceylon and the Straits—estates for which no leases, or even locations in some instances, have as yet any existence. In one such case, indeed, the chairman of one of these more than doubtful money traps was warned by two leading Ceylon residents of London that it was such a patently uncertain concern that he might be liable to find himself in the dock if the prospectus were not withdrawn. That warning, however, seems to have had no effect on the promoters, because the prospectus had not been withdrawn when Mr. Carey left. This concern, it may be mentioned, was very severely handled by the *Financial News* some months ago—the allusions to it being republished in these columns. The name of the company, it may be added, affects the Straits in a fashion, because it rejoices in the euphemistic and alluring registered title of "The Malay States Planters' Syndicate." There are no F. M. S., Straits, or Ceylon people known to be connected with the concern.

Mr. Carey has only come back here on a short visit, with the object of exercising his option to take up his concession of 30,000 acres comprised in the island adjoining Port Swettenham. His investigations in London and elsewhere have convinced him that the prospects for floating this concession into a large company are exceedingly promising. Accordingly he now proceeds to the Selangor capital with the object of securing his titles and completing the other necessary arrangements in respect of the transfer with the F. M. S. government. He will return to England as soon as these matters have been settled, which will probably be in about a month's time.

* * *

[SOME correspondence addressed by Mr. Carey while in America to Mr. W. W. Bailey, chairman of the United Planters' Association of the Federated Malay States, and afterward appearing in *The Malay Mail* (Kuala Lumpur) related to the subject of direct shipments of rubber from the Straits planters to American manufacturers. For the interest of English readers he mentioned that there are no such auction sales in New York as exist for rubber in London, and that the essential feature in the case of shipment to the American market is that the consignees be people of unquestioned integrity. Mr. Carey mentioned meeting Mr. Bruce Webster who about 12 years ago was agent at Kuala Lumpur of the Chartered Bank of India, Australia and China, and who now holds the position of New York manager of the same bank who stated that he would take bills on responsible rubber manufacturers in America from the Straits.]

MEXICO.—The manager of the American Stamps Works (City of Mexico) recently made a visit to Yucatan for the purpose of establishing a branch there, on account of the increasing demand for rubber stamps, consequent upon the improvement of business conditions in Yucatan, and especially in the henequen (sisal) trade.

OBITUARY.

A MASA A. MARKS died at his home in South Beach, Connecticut, on the morning of July 19, in his eighty-first year, of heart failure, induced it is supposed by the extreme heat. Mr. Marks was the founder of the artificial limb industry based upon the use of rubber, his business in this line becoming known all over the world. Mr. Marks was born April 3, 1825, at Waterbury, Connecticut, being descended from early settlers of New England, including among his ancestors many who in their day were useful and honored citizens. First working on a farm, he embarked in the milling



business for himself at the age of 18 years at Milford, removing later to New Haven, and finally to New York city, each removal being marked by an increase in his business.

In 1853 he became a partner with his older brother, David B. Marks, who invented and obtained a patent on an artificial leg, but on account of the slow progress of the business the brother became discouraged and withdrew. In

1863 A. A. Marks obtained a patent on a rubber foot which was an entirely new feature in the prosthetic industry, and for that matter one of the earliest uses of India-rubber. The merits of the invention speedily known and appreciated; in fact, it was the rubber foot that gave Mr. Marks' business its first important impetus and from that time he met with the most encouraging success.

From time to time additional patents were obtained by Mr. Marks for improvements on the rubber foot and later for a rubber hand—discoveries which brought Mr. Marks prominently before the medical and surgical professions and the public generally, and gave him a world wide reputation in his line. In 1864 he received a contract from the United States government to furnish artificial limbs to the unfortunate soldiers and sailors of the civil war, and he has since carried a perpetual contract to renew those limbs as required. The American Institute in its palmyest days acknowledged him as the authority in his profession and the Franklin Institute and other scientific bodies have awarded him medals recognizing his inventive skill. [See the article on "Artificial Legs and Arms of Rubber" in THE INDIA RUBBER WORLD, May 10, 1896, page 228.]

In 1850 Mr. Marks married Miss Lucy A. Platt, daughter of Charles Platt, of New York, and of their seven children four survive: Charles A., who is an Episcopal clergyman; George E. and William L., who entered into partnership with their father in 1885 (after which the father retired from active control of the business), and Anna A. Mr. Marks resided in New York city from 1852 to 1871, during which time he was actively interested in public matters and devoted to the success of the Republican party. Later for twelve years he served as school visitor in Greenwich township, Connecticut, being for most of the time chairman of the board, besides being for a number of

years justice of the peace. He was an active member and liberal supporter of the Sound Beach Congregational Society and a member of Manitou Lodge No. 106, F. and A. M. (New York), the New England Society of New York, Veteran Masonic Association, Riverside Yacht Club, Sound Beach Country and Golf Club, and many other institutions.

Although in his eighty-first year, Mr. Marks was up to the moment of his death remarkably vigorous, physically and mentally. He took a very active interest in local affairs and gave much thought to the beautifying of his estate on Long Island sound. It was a pleasure to him to note the remarkable progress made in the development of Sound Beach as a residential spot. He had good reason to be proud of what had been accomplished, for he was the pioneer in all substantial progress at that delightful place. He will be sincerely mourned in Sound Beach and among a wider circle of friends throughout the country who appreciated his high personal character.

* * *

THEODORE C. WEEKS, who died at his home in Melrose, Massachusetts, on July 11, was born at Vineyard Haven, in that state, in 1840. When he was four years old the family removed to Colchester, Connecticut, where at an early age he became employed in the rubber shoe factory of the Hayward Rubber Co., organized by the late Nathaniel Hayward, whose daughter, Louisa, Mr. Weeks married in 1859. Later the "Red Mill," Stoneham, Mass., once used by the late Hon. E. S. Converse in grinding dyestuffs, was converted into a rubber factory operated by the N. Hayward Rubber Co., which afterward became the Haywardville Rubber Co. This business was organized by Nathaniel Hayward, in connection with his brother Daniel and other members of the family, and Mr. Weeks was connected with it at various times in different capacities. He was there as early as 1862 and took part in the winding up of the Haywardville Rubber Co., seven or eight years later. There was an interval between the two companies named here, when the Stoneham factory was operated by the Rubber Sole Shoe Co., of which Mr. Weeks was treasurer. The mill finally became the property of Mr. Converse. Afterward, during a number of years Mr. Weeks was a broker in Boston.

"THERMALITE" IN GERMANY.

AS indicated in the issue of this Journal of June 1, 1905 [page 305], the article marketed in the United States as the "Thermalite" bag, in competition with the rubber hot water bag is made under the system which is the basis of the Deutsche Thermophor-Aktiengesellschaft (Andernach, Germany), founded in 1899. The business report of the German company for the last business year, according to the *Gummi-Zeitung* (July 7), shows a decreasing amount of business. The sales on the rubber goods were 7446 marks less than in the preceding year. The total sales were: Rubber goods account, 47,258 marks [= \$11,247.40]; metal goods account, 16,816 marks [= \$4002.21]; muscle invigorator account, 1459 marks [= \$347.24]. "The report calls it a fortunate occurrence that the company, after extended efforts, succeeded in selling the American patents for \$40,000. The year 1904 showed a loss of 28,942 marks [= \$6888.20], after deducting 51,649 marks [= \$12,292.46] for the sinking fund." The capital of the German company is 743,000 marks [= \$176,834]. At the end of the business year the company owed 194,922 marks [= \$46,391.46]; there was owing to the company 90,184 marks [= \$21,463.79]; and it had in hand 1062 marks [= \$252.76] in cash and bills of exchange. The patents have been included in the assets at a valuation of 374,028 marks [= \$89,018.67].

NEWS OF THE AMERICAN RUBBER TRADE.

THE B. F. GOODRICH CO.—INCREASE OF CAPITAL.

THE B. F. Goodrich Co. (Akron Rubber Works) on July 13 filed with the secretary of state of Ohio a certificate of increase of capital stock, from \$5,000,000 to \$10,000,000. The additional shares have been all taken by the former shareholders of the company. The increase has been made necessary partly by the growth of the regular business of the company and partly by their establishment of a boot and shoe department. The building for the new department is rapidly nearing completion, and the company hope to be operating in it sometime in September.

UNITED STATES RUBBER CO.—DIVIDEND.

THE board of directors of the United States Rubber Co. on July 6 declared a regular quarterly dividend of 2 per cent. upon the preferred stock from the net earnings of the company and its subsidiary companies for the first three months of the fiscal year beginning April 1, 1905. The net earnings for the first quarter of the year (June partially estimated) are reported to be \$966,751.21. The net earnings for the corresponding period last year were \$866,510.32, showing an increase in the earnings this year over last of \$100,240.89. The amount required for this dividend is \$470,510.

NATIONAL INDIA RUBBER CO. (BRISTOL, R. I.)

LE BARON C. COLT, who was appointed agent of the above named company in January last, has been appointed to the additional position of superintendent of the factory, in which capacity he will have two assistants, Elwyn C. Fish, and James W. Franklin. Mr. Fish has been assistant superintendent for some time past, and Mr. Franklin had been foreman of the stitching and packing departments of the factory. The daily output of rubber footwear at this factory at latest reports was about 30,000 pairs, and there were enough orders in hand for rubber goods of various kinds to insure the operation of the factory at its present capacity for several months to come, making work for about 2000 employes.

HARBURG AND VIENNA INDIA-RUBBER CO.

MR. C. H. TAYLOR, one of the managers of the New York agency of the Vereinigte Gummiwaaren-Fabriken, Harburg-Wien, has lately returned from Europe, where he spent several weeks visiting the various factories of the company. He reports the rubber industry in a good condition on the continent, the business of the company named being greater this year than at any former period. The company's American business in red rubber toys and rubber balls is increasing, and they are about to introduce in this country their new motor tires.

CONSOLIDATED COTTON DUCK CO.

[See THE INDIA RUBBER WORLD, July 1, 1905—page 348.]

PLANS are reported to be under way for improvements in the large mills of this company around Baltimore. Based upon the recommendations of experts who have been studying the situation for some time past, improvements to cost \$1,000,000 or more, and which will require at least a year for their completion, have been decided upon for the mills at Hampden, Woodberry, Mount Vernon, and Mount Washington. Old machinery is to be replaced with up to date equipment, and while the number of spindles is not to be increased materially, a larger output is anticipated, with a considerable reduction in the cost of manufacture. The new company has been organ-

ized by the election of S. Davies Warfield, chairman of the board; C. K. Oliver, president; D. H. Carroll, vice president and treasurer; H. L. Smith, assistant treasurer; and C. S. Green, assistant secretary.

AMERICAN PRODUCTION CO. (PITTSBURGH)

[See THE INDIA RUBBER WORLD, July 1, 1905—page 334.]

THE Denver (Colorado) *Republican* of July 26 having referred to this company as being interested in the insulation of wire by a special process, in which the Colorado rubber can be utilized, President M. G. Leslie, of the company, replies to an inquiry from THE INDIA RUBBER WORLD that they are not now prepared to make any statement. "When the matter is fully developed," he says, "we will give you any information that we may have for publication."

ANOTHER GOLF BALL PATENT SUIT.

SUIT for alleged infringement of patent has been brought by the Haskell Golf Ball Co. against the Seaman Manufacturing Co., of Milwaukee, a corporation of Wisconsin, in the United States circuit court for the eastern district of Wisconsin, the bill of complaint having been filed May 4, 1905. The defendant company manufacture what they call the "Bogey" ball under United States patent No. 730,303, granted to Alonzo D. Seaman. In its construction small rubber rings are stretched by special machines over a non elastic center until the core has acquired the proper size, when a Gutta-percha cover is applied. The Seaman company announce to the trade their intention to "fight the suit to a finish."

ALABAMA RUBBER AND SUPPLY CO.

THIS is the style of a jobbing house established at Birmingham, Alabama, to represent in that state the Mechanical Rubber Co. of Cleveland, Ohio. There is carried in stock a full line of the belting, packing, hose, tubing, and plumbers' supplies made by that company. The furnace, mine, and mill trade not only of Birmingham but throughout Alabama is solicited by this house. There is also marketed a line of vehicle tires manufactured for the house and under its brand by the Goodyear Tire and Rubber Co. (Akron, Ohio).

COLORADO RUBBER ITEMS.

THE board of trade of Salida, Colorado, has sent an exhibit, prepared by Secretary O. J. Kennedy, to the Lewis and Clark fair, at Portland, Oregon, for the purpose not only of advertising the city, but of bringing into greater prominence the Colorado rubber plant and its product.

Articles of incorporation were filed July 8, 1905, with the secretary of state at Lansing, Michigan, by the P. F. U. Rubber Co., with \$250,000 capital, the stated object being: "The extraction, manufacture, and sale of rubber like gum and the manufacture and sale of articles made therefrom." The operations of the new company are to be carried on at Buena Vista, Colorado. The common stock (\$175,000) is represented by a license to Edward C. Dunbar from the American Crude Rubber Co., dated May 17, 1905, to extract rubber from the Colorado plant by methods covered by patents owned by the American company. The company takes its name from the botanical term *Picradenia floribunda utilis*.

AMERICAN CHICLE CO.—ANNUAL MEETING.

AT the annual meeting in Jersey City, New Jersey, on July 18, of the shareholders of the American Chicle Co., the report presented showed that after paying dividends during the year

amounting to \$900,000 there was a surplus of undivided profits of \$326,000. Dividends on the preferred stock at 6 per cent. amounted to \$180,000 and on the common stock at 12 per cent. to \$720,000. During the fiscal year a factory was erected in San Francisco; that at Cleveland, Ohio, was enlarged materially, and another factory is being constructed in Toronto. The directors were reelected, the vacancy caused by the recent death of Thomas Adams, Sr., being filled by the election of his son John D. Adams. The board now consists of Thomas Adams, E. E. Jeman, W. J. White, R. F. Tully, G. A. Stanton, George H. Worthington, J. P. Primley, T. L. Jefferson, John D. Adams, Stephen T. Britten, Henry Rowley, and W. B. White. The officers were reelected: W. J. White, president; G. H. Worthington, vice president; and Henry Rowley secretary and treasurer. Recent quotations for the company's shares were: Preferred, 97 bid 100 asked; common, 122 bid 126 asked.

RUBBER AT THE LEWIS AND CLARK FAIR.

THE Bowers Rubber Co. (San Francisco) are represented at the Lewis and Clark Fair at Portland by an attractive exhibit of the products of their rubber factory, of which an illustration is presented herewith. As theirs is a California industry the Messrs. Bowers have had their booth and showcases constructed of California materials, and taken as a whole their exhibit has



been very much complimented. A unique feature is the "Rubber Neck Lady," who is made to turn by means of an electric motor so as to face alternately up and down the aisle, thus attracting a great deal of attention. The company offer a prize for a suitable name for this lady, and the public are taking much interest in the contest.

NEW INCORPORATIONS.

CICERO Rubber Co., July 1, 1905, under Illinois laws, to manufacture, buy, and sell rubber goods; capital, \$2500. Incorporators: William T. Gotbed, Arthur McNeal, E. E. Lovejoy, B. Kellogg. Principal office: Clyde, Illinois.

=Oceanus Manufacturing Co., June 16, 1905, under New York laws; capital \$10,000. Incorporators: Henry Russell, Adolph Morris, and D. C. Solomon, all of New York city. This company has been formed for the purpose of manufacturing Cravenette rainproof clothing, for the general trade but particularly for the automobilists' use. The treasurer, Adolph Morris, is half owner of the Manhattan Storage Co. (New York), one of the largest automobile supply houses in the country, and which plans to handle the output of the new company. Mr. Morris informs THE INDIA RUBBER WORLD that while the present capital of the Oceanus company is only \$10,000, there will be no

lack of means for the development of its business in case the same shall prove as profitable as is anticipated.

=The Tennant Auto Tire Co. (Springfield, Ohio), June 7, 1905, under Ohio laws. Capital authorized, \$100,000. Incorporators: Irvin Tennant, James Hohman, H. A. Toulmin, Ira W. Wallace, Elwood Allen, and Luther Neir. This corporation has been formed to succeed a New Jersey corporation by the same name which has been engaged for a year or two in marketing punctureproof tires patented by Irvin Tennant.

=National Rubber Co. (San Antonio, Texas), June 16, 1905; capital, \$100,000. Incorporators: Otto Koehler and Otto Whrmund of San Antonio, and Pablo Bergner of Mexico City. It is understood that the company will exploit Guayule.

=The Stockton Rubber Co., July 18, 1905, under New Jersey laws; to deal in scrap rubber and to reclaim rubber; capital, \$50,000. Incorporators: Dominic J. Price, John R. Trewin, and Oliver I. Blackwell—all of Lambertville, New Jersey.

=Powers Rubber Horseshoe Co., licensed July 15, 1905, under Illinois laws; the incorporation is not yet completed. The preliminary papers are signed by Reuben D. Buckingham (No. 354½ North Clark street, Chicago), Oscar Lund, and Thomas Kiley.

=The Pneumatic Tire Protector Co. (Dayton, Ohio), July 12, 1905, under Ohio laws; capital \$10,000. George G. G. Peckham is manager, and the other incorporators are Walter S. Thomas, G. T. Thomas, D. W. Wood, and E. E. Coates. The company will manufacture "life preservers" of rubber and canvas for automobile tires.

HARTFORD RUBBER WORKS CO.'S CONFERENCE.

THE annual conference of the officers, branch managers, and traveling representatives of this company has now become a much appreciated fixture in the policy of the company. It occurred this year during the second week of July, with a very full attendance. The conference was for the purpose of reviewing the work of the past season and making plans for the future. It is understood that the reports made indicated a very satisfactory year, and that during the first six months of the present year the sales amounted to \$2,050,000, which represents more business than the company did during all of 1904. President Charles H. Dale presided at some of the meetings, and there was evident among the men present a lively feeling of appreciation of the manner in which he has conducted the affairs of the company. There were in attendance, in addition to members of the home office staff:

OFFICIAL BOARD.

Charles H. Dale, president.
Ernest Hopkinson, member of the board.
William Seward, Jr., vice president and general manager.
Justice D. Anderson, vice president.
James W. Gilson, secretary and treasurer.

BRANCH MANAGERS.

New York (Uptown)—E. S. Roe.	Minneapolis—H. E. Severance.
Chicago—S. E. Gillard.	Los Angeles—H. O. Harrison.
Denver—H. E. Field.	San Francisco—C. H. Minto.
Buffalo—James How.	St. Louis—Richard Clunan.
Cleveland—George Ostendorf.	Kansas City—Joe Paupenaude.
Philadelphia—Franklin Kesser.	M. J. Tansey, General western manager.
Detroit—E. E. McMaster.	
Boston—E. R. Benson.	

SALESMEN.

C. C. Harbridge,	A. H. Wikoff,	E. S. Benson,
A. W. Kirk,	P. H. Goodall,	H. Snyder,
R. H. LaPorte,	W. H. Dougherty,	W. H. Bell,
D. W. Shattuck,	H. Snyder,	J. G. Squires,
	E. S. Edwards.	

GOOD SALE OF A TIRE PATENT.

THE following item is supplied by the company named in the opening sentence: "Mr. Frank Schudell, compounder and old employé of the Chicago Tire and Rubber Co., has been

given by the firm a trip to the old country. He will visit Ireland (his old home), Berlin, Liverpool, Paris, and London. In Germany he will show the process for making and using a valuable invention in connection with vehicle tires to a prominent rubber manufacturer, they having just purchased same from John L. G. Dykes, formerly of this company, for \$50,000."

THE NEW HARD RUBBER CORPORATION.

ARTICLES of incorporation of The Hard Rubber Company of America, under the laws of New York, were filed with the secretary of state, June 28, 1905. The amount of capital stock is stated to be \$2,500,000 in preferred shares entitled to 8 per cent. cumulative dividends, and \$5,000,000 in common shares, all of the par value of \$100. The papers were signed by persons connected with the American Hard Rubber Co. (New York). This is in effect an increase in the capitalization of the last named company, in a more convenient form than was possible under its existing charter. The new corporation is in the nature of a holding company, and will acquire the shares of the American Hard Rubber Co. and the constituent companies of the latter, without terminating their corporate existence. The increase of capital has been rendered necessary by the steady growth of the business, and has been fixed at a figure which will provide for the continued increase which appears warranted by the general prosperity of the country. During the last years the company has remodelled and enlarged its factories and the work is being further energetically continued.

SUIT OVER A CORPORATE TITLE.

MENTION was made in THE INDIA RUBBER WORLD of July 1, 1903 (page 350), of an action brought in the New Jersey court of chancery by the Eureka Fire Hose Co. (New York and Jersey City) against The Eureka Rubber Manufacturing Co. of Trenton, N. J., to have the latter enjoined from the use of the word "Eureka" in advertising their products, particularly in the marketing of fire hose, and further to be restrained from using the name "Eureka" in their title as a corporation. Both parties in this action are corporations under the laws of New Jersey, the complainants being the older company, and their business being principally in the manufacture of rubber lined cotton fire hose. The defendant company was incorporated July 15, 1902, and has engaged principally in the manufacture of mechanical rubber goods, rubber carriage drill, rubber carriage tires, rubber covered wire, and to a much lesser extent in the manufacture of fire hose. Following an opinion rendered at the February term, 1905, by Vice Chancellor Emery, in favor of the plaintiffs, the decree of the court by Chancellor Magie filed June 6 is that the defendants be enjoined from the use of the word "Eureka" as part of their corporate title, in connection with the manufacture and sale of fire hose or any other hose such as is manufactured by the Eureka Fire Hose Co. It also enjoins them from the use of the word "Eureka" as a distinguishing brand in connection with the manufacture and the sale of such goods. The defendants, who disclaim having used the word "Eureka" except as a portion of their corporate title, have appealed the case to the court of errors and appeals of New Jersey, which acts as a stay on the injunction.

THE DISAPPOINTMENT OF OLATHE.

THE prospects are not bright for the erection at Olathe, Kansas, of a \$150,000 rubber reclaiming plant, by Mr. C. S. Heller, of Akron, Ohio, with the moral and financial support of the Olathe Commercial Club. It is understood that two citizens of Olathe who became directors in the Central Rubber Co., a Maine corporation promoted by Cassius M. Gilbert, of Kan-

sas City, for the purpose of building the Heller plant, have resigned, with the feeling that somebody was working in the dark to prevent the factory from being located at Olathe. The *Mirror* of that town says: "The other large rubber manufacturers did all in their power to dissuade Heller from coming west, and it is believed the pressure and other inducements together with the scheming of another director, are the direct causes of Mr. Heller's determination to stay at Akron."

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED STATES Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending June 24	2,350	38	36½	2,700	104¾	101½
Week ending July 1	6,450	41½	38	4,650	109¾	105¾
Week ending July 8	30,550	44½	40	8,100	110¼	108
Week ending July 15	9,020	44	41¾	3,850	110	108½
Week ending July 22	56,715	49¾	43	9,921	113½	110¼

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending June 24	800	33¾	32	750	101	101
Week ending July 1	2,800	34¾	33¾	1,021	104½	102½
Week ending July 8	1,200	34¾	33¾	300	104	104
Week ending July 15	1,300	34¾	34	215	104	104
Week ending July 22	900	34¾	34	300	104½	104

PHOENIX RUBBER CO. (BARBERTON, OHIO).

THE newspapers of Lancaster, Ohio, report that the company above named has secured premises in that town with a view to removing its factory from the present location. The Phoenix Rubber Co. was incorporated in March last, with \$15,000 capital, to succeed the Lilly Rubber Co., of Barberton.

THE GOODYEAR TIRE AND RUBBER CO. (AKRON).

THIS company has been making extensive additions to and improvements in its plant at East Akron. The engine room is being enlarged by the construction of an addition 80 X 38 feet, to accommodate a 1500 HP. cross compound Corliss engine, which will almost double the power capacity. The tire department will be enlarged by the addition of a new room 90 X 46 feet, now being constructed. Within the past year, or since the reorganization of the finances of the company, it has been making encouraging progress. The pneumatic golf ball is reported to have become a very successful feature of the company's business.

TRADE NEWS NOTES.

BOSTON Woven Hose and Rubber Co. announce that Mr. Frederick E. Stockwell, who for the past four years has represented them in northern New England and Canada, has been placed in charge of their Philadelphia office, with headquarters in the Drexel building. Mr. Stockwell was formerly located in Philadelphia where he has a large circle of acquaintances.

=The Hodgman Rubber Co. (New York) have increased their capital stock to \$500,000, one half each in preferred and common shares. Before the increase the amount of capital outstanding was \$132,800 in preferred and \$250,000 in common stock.

=The Woonsocket Rubber Co. were advertising recently for help with a view to an increased production in rubber shoes at their "Alice" mill.

=Referring to newspaper reports of a strike at the factory of the Davol Rubber Co. (Providence, Rhode Island), about the middle of the month, it is understood that the whole affair was of little importance and bore no relation to wages. Some changes were made in systemization of the work in one of the departments, and before this became fully understood some of the employes stopped work for a short time.

=Howard H. McGee, until lately New England representative of the Seamless Rubber Co. (New Haven, Connecticut), has been transferred to that company's Chicago office, where he will be located as their western representative. He took charge of his new position on July 17.

=The Keystone Brush Co. (College Point, New York) has been organized lately of rubber brushes and small sundries. C. H. Hoppe is manager.

=Edred W. Clark, machinist, of Hartford, Connecticut, was burned out on June 27, causing a total loss, which was only partially covered by insurance. The fire began in a neighboring building and both that and the one which he occupied were entirely destroyed. Mr. Clark made a specialty of tubing machines and presses for the rubber industry, and his advertisement in the first issue of THE INDIA RUBBER WORLD (October, 1889) mentioned him as successor to L. Tiffany & Co.

=Mr. Warren M. Poorman will represent the Rubber Trading Co. (New York) at their Boston office, No. 161 Summer street.

=There was introduced into the Philadelphia select council on July 6 an ordinance granting the Philadelphia Rubber Works permission to construct a railroad siding on Schuylkill avenue, near Thirty-seventh street. The ordinance was promptly passed by that body and later in common council, and it is understood that work will be begun on the new siding at once. It will greatly facilitate the movement of freight over the different adjacent railroads to and from the rubber company's works, which are the largest in Philadelphia.

=The Beacon Falls Rubber Shoe Co. are laying pipes to connect the new cottages built for their employees with the town water system.

=The Fisk Rubber Co. (Chicopee Falls, Massachusetts) have established a branch at San Francisco for the better management of the trade in Fisk tires on the Pacific coast, which will be in charge of Mr. G. E. Johnson, with headquarters at No. 409 Golden Gate avenue.

=The Edgeworth factory of the Boston Rubber Shoe Co. has not been operated on Saturday afternoons since the first of July, and the same program will be continued through August, the "ticket" being reduced to enable the employes to finish the week's work by Saturday noon.

=The brick work in connection with the installing of new boilers at the "Alice" mill of the Woonsocket Rubber Co. is being done by Michael McLaughlin, who had the contract for the brick work when this factory was erected, in 1889-90.

=The annual shutdown of the factory of the Lambertville Rubber Co. (Lambertville, New Jersey), for inventory and repairs, occurred this year as usual in July, the resumption of work being due about August 1. The company are understood to be well provided with orders for footwear.

=In the matter of the Cable Rubber Co., in bankruptcy, the United States court at Boston has declared an additional dividend of 4 per cent. for the creditors, making a total of 28 per cent. The company's liabilities were stated originally to total \$114,938, with assets of \$32,242.

=Despite the prominence of Akron, Ohio, as a rubber manufacturing center, it appears that the city fire apparatus there has never been equipped with rubber tires. One of the local

manufacturers, therefore, offered to supply such equipment recently at a specially low price, but it was decided by the municipal authorities that the city was not in a financial position to purchase rubber tires for the fire engines and hose carts, at any price.

=Mr. William H. Goodyear, son of the late Charles Goodyear, and curator of the museum of fine arts of the Brooklyn Institute, was reported lately to be in Venice, whither he had gone to study the projected restorations of the famous basilica of St. Mark.

=The statue of Charles Goodyear, of heroic size, which stood in front of the Manufacturers' building at the St. Louis Exposition last year, has been presented to the Goodyear Rubber Co., and is on exhibition at their St. Louis store.

=Benjamin H. Pratt, of Chicago, has filed a petition in voluntary bankruptcy in the United States district court in that city, stating his liabilities at \$99,308.78, and assets at \$93. Most of his liabilities relate to the time when he was president of the Manufacturers' Agents and Supply Co., the Chicago branch of the Elastic Tip Co. (Boston) prior to the embarrassment of the latter concern in 1898.

=At Silver Lake Park (Akron, Ohio) on July 8 a baseball game between nines from the factories of The B. F. Goodrich Co. and the Mechanical Rubber Co. (Cleveland) was won by the former by a score of 10 to 1.

=Mr. James W. Franklin who, at the beginning of last month was made assistant superintendent of the factory of the National India Rubber Co., has been a member of the town council of Bristol, Rhode Island, for seven years, and president for six years.

=The Republic Rubber Tire and Shoe Co., Inc.—F. E. McEwen, manager (New York) have consolidated their factory and offices at Nos. 449-451 West Fifty-third street.

=The Tanganyika Rubber and Trading Co. have filed articles of incorporation in the office of the secretary of state of Montana, with \$50,000 capital stated. The incorporators are Roland H. Creech, C. F. Bergstrand, and Robert Haydn—all citizens of Butte, Montana. It is understood that the object of the company is to trade in rubber in the Lake Tanganyika region, in Central Africa.

=Aiton Machine Co. have just issued their Bulletin No. 49, showing one of the many sizes of washers for rubber work which they are building. Copies of this bulletin may be had upon application at their New York office, No. 126 Liberty street.

PERSONAL MENTION.

MR. S. H. C. MINER, president of the Granby Rubber Co. (Granby, Quebec), spent a week or ten days, early in July, at Vancouver, British Columbia. Mr. Miner has been for years interested in mining and industrial interests in that province, and in interviews reported in the Vancouver press he declared his confidence in the continuation and growth of its prosperity.

=Mr. Charles R. Flint was reported on July 13 to be at Stockholm, in conference with the Swedish minister of marine. The opinion was expressed that the subject was the transfer to Sweden of warships which certain South American republics are said to be willing to sell.

=Mr. Charles A. Coe, of Boston, whose right arm has been practically useless for a month or more, has just gone through with an operation which is designed to release certain muscles and make the arm as good as new. It will delight his many friends to know that the operation was wholly successful and that he will be able soon to give his friends the right hand of fellowship as heartily as of yore.

REVIEW OF THE CRUDE RUBBER MARKET.

THE month under review closes with a condition of firmness in the market for rubber, after a period of unusual dullness. Prices of all Pará grades are somewhat lower at the end than at the beginning of the month, though still much higher than at the same date one year ago. In respect to other sorts, conditions vary, some showing a slight decline, while prices for some grades have been well maintained. Buying by manufacturers has been light, from all reports, and it is evident that, in view of the small stocks available and the light receipts at primary markets at this season, any marked activity in buying would result in an upward tendency of prices.

Receipts at Pará (including Caucho) to July 28 were 1205 tons, against 1250 for the whole month of July last year, which may be taken as pointing to the usual sized crop this year. But if the crop total for the season just opened should equal that of last year (which was the largest yet harvested), it does not signify a speedy replenishment of visible supplies. During the last season only 40 per cent. of the year's total reached Pará by December 31, whereas in the year before, 44 per cent. had arrived by that date. Every year the center of production recedes further from the seaboard, delaying the date of arrival in the consuming markets of the bulk of the product. From figures printed on the following pages it is evident that the increase in the output from the Amazon valley last season came from beyond Brazilian territory (including the newly acquired Acre district).

Following is a statement of prices of Pará grades, one year ago, one month ago, and on July 31—the current date:

PARÁ.	August 1, '04.	July 1, '05.	July 31.
Islands, fine, new.....	114@115	125@129	125@126
Islands, fine, old.....	none here	none here	none here
Upriver, fine, new.....	118@119	130@131	127@128
Upriver, fine, old.....	119@120	132@133	129@130
Islands, coarse, new.....	64@ 65	72@ 73	67@ 68
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	91@ 92	95@ 96	90@ 91
Upriver, coarse, old.....	none here	none here	none here
Caucho (Peruvian) sheet.....	68@ 69	72@ 73	70@ 71
Caucho (Peruvian) ball.....	77@ 78	80@ 81	80@ 81

The decline in other sorts at New York has been less marked, as the figures show:

AFRICAN.	CENTRALS.
Sierra Leone, 1st quality 98@ 99	Esmeralda, sausage... 82 @83
Massai, red..... 98@ 99	Guayaquil, strip..... 70 @71
Benguella..... 75@ 76	Nicaragua, scrap... .81 @82
Cameroon ball..... 66@ 67	Panama, slab......60 @61
Accra flake..... 26@ 27	Mexican, scrap.....81 @82
Lopori ball, prime.... 104@105	Mexican, slab.....57 @58
Lopori strip, prime.... 91@ 92	Mangabeira, sheet...71 @72
Madagascar, pinky.... 87@ 88	EAST INDIAN.
Ikelemba.....	Assam......96 @97
	Borneo......41 @42

Late Pará cables quote:

Per Kilo.	Per Kilo.
Islands, fine..... 5\$300	Upriver, fine..... 6\$350
Islands, coarse..... 2\$300	Upriver, coarse..... 4\$250
Exchange, 17d.	

Last Manáos advices:

Upriver, fine..... 6\$300	Upriver, coarse..... 3\$800
Exchange, 17½d.	

NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER).

1905.	1904.	1903.
Upriver, fine..... 1.30@1.35	1.11@1.14	89 @93
Upriver, coarse..... 87@ 90	70 @74	
Islands, fine..... 1.28@1.33	1.08@1.11	85 @89
Islands, coarse..... 72@ 76	64@ 68	54 @57
Cametá..... 74@ 80	64@ 68	56 @60

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.				
	Fine and Medium.	Coarse.	Total 1905.	Total 1904.
Stocks, May 31... .. tons	361	217 =	578	327
Arrivals, June.....	261	229 =	490	252
Aggregating.....	622	446 =	1068	579
Deliveries, June.....	227	247 =	474	442
Stocks, June 30... ..	395	199 =	594	137
PARÁ.				
	1905.	1904.	1903.	1902.
Stocks, May 31... .. tons	365	195	115	370
Arrivals, June.....	985	1035	1770	760
Aggregating.....	1350	1230	1885	1130
Deliveries, June... ..	1190	1055	1770	645
Stocks, June 30... ..	160	175	115	485
ENGLAND.				
	1905.	1904.	1903.	1902.
World's visible supply, June 30... .. tons	1790	1506	2712	
Pará receipts, July 1 to June 30.....	27,311	25,925	26,546	
Pará receipts of Caucho, same dates.....	5474	4669	3204	
Afloat from Pará to United States, June 30..	96	98	495	
Afloat from Pará to Europe, June 30.....	455	511	415	

Albert B. Beers (New York) reports:

"There is nothing new in the commercial paper situation since the report of a month ago, the demand for rubber notes still continuing fair at 4½ @ 5 per cent. for the best, and 5½ @ 6 per cent. for the smaller concerns."

Canada.

VALUE of imports of India-rubber, gutta-percha and manufactures thereof for 10 months of the last three fiscal years, beginning July 1:

Crude Materials:

FROM—	1903.	1904.	1905.
Great Britain.....	\$ 6,863	\$ 4,346	\$ 25,883
United States.....	1,356,474	2,075,327	2,263,011
Other countries.....	714	919	332
Totals.....	\$1,364,051	\$2,080,592	\$2,289,226

Manufactures:

	1903.	1904.	1905.
Great Britain.....	\$328,188	\$323,338	\$156,262
United States.....	461,239	500,452	510,061
Other countries.....	19,489	23,291	22,918
Total.....	\$808,916	\$847,081	\$689,241

Ceylon Exports (Plantation Rubber).

POUNDS.	POUNDS.
January 1 to May 22. 39,770	Total to June 19 45,438
Week ending May 29..... 344	Same period, 1904..... 32,225
Week ending June 5..... 794	Same period, 1903..... 22,533
Week ending June 12.... 2,608	
Week ending June 19... 1,922	

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots, in cents per pound—show a slight increase over the figures last reported, as follows:

Old Rubber Boots and Shoes—Domestic.....	6½ @ 6¾
Do —Foreign.....	5½ @ 5¾
Pneumatic Bicycle Tires.....	5 @ 5¼
Solid Rubber Wagon and Carriage Tires....	6½ @ 6¾
White Trimmed Rubber.....	8½ @ 8¾
Heavy Black Rubber.....	4½ @ 4¾
Air Brake Hose.....	2¾ @ 3
Fire and Large Hose.....	2¼ @ 2½
Garden Hose.....	1¾ @ 1¾
Matting.....	1¾ @ 1

Manaos Rubber Receipts.

DURING June and twelve months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

FROM—	JUNE.			JULY-JUNE.		
	1905.	1904.	1903.	1905.	1904.	1903.
Rio Purús—Acre..... tons	123	30	26	6243	5913	5938
Rio Madeira.....	106	40	57	2978	2681	2306
Rio Juruá.....	33	34	48	3944	3678	3608
Rio Javary—Iquitos.....	26	54	5	2618	2273	1507
Rio Solimões.....	21	9	8	903	837	1372
Rio Negro.....	31	17	104	787	485	755
Total.....	340	184	248	17,473	15,867	15,486
Caucho.....	327	257	258	4613	4057	3612
Total.....	667	441	506	22,086	19,924	19,098

MANAOS EXPORTS FOR THE CROP YEAR (IN KILOGRAMS).

TO—	Fine.	Medium.	Coarse.	Caucho.	Total.
New York..	4,553,269	989,067	1,330,893	1,205,677	8,078,906
Liverpool..	2,805,116	445,015	717,804	2,031,984	5,999,919
* Continent.	1,333,688	150,863	345,333	718,601	2,548,485
Total..	8,692,073	1,584,945	2,394,030	3,956,262	16,627,310

[* Havre, Hamburg, and Antwerp.]

MANAOS EXPORTS BY FIRMS.

	Kilos.		Kilos.
Dusendschön & Co.....	4,974,151	Reeks & Astlett.....	183,494
Witt & Co.....	4,281,959	Denis Crouan & Co....	96,142
A. H. Alden.....	1,888,208	Brocklehurst & Co.....	53,638
Gordon & Co.....	984,630	Marius & Levy.....	44,431
Neale & Staats.....	939,310	Sundry shippers.....	263,341
J. H. Andresen, Succ....	312,619	Iquitos, transit.....	2,102,563
J. G. Arana & Hos.....	255,636	Total.....	16,627,310
Kahn, Polack & Co.....	247,188		

[NOTE.—The difference between the receipts at Manaos and the shipments from that port are accounted for chiefly by the fact that a certain amount of the rubber involved goes down to Pará and figures in the direct shipments from that port.]

The firm of Witt & Co. ceased to exist on June 30, and has been succeeded by the firm of Scholz & Co., wherein Waldemar Scholz and Frederico Hartje are the general partners and Nicoláo Henrique Witt the silent partner.

London.

EDWARD TILL & Co. report stocks [July 1]:

	1905.	1904.	1903.
LONDON { Pará sorts..... tons	—	—	—
{ Borneo.....	41	29	19
{ Assam and Rangoon.....	10	9	7
{ Penang.....	288	—	—
{ Other sorts.....	198	268	198
Total.....	537	306	224
LIVERPOOL { Pará.....	480	587	1328
{ Caucho.....	266	318	273
{ Other sorts.....	467	709	460
Total, United Kingdom.....	1750	1920	5285
Total, June 1.....	1644	1667	2248
Total, May 1.....	1415	1644	2539
Total, April 1.....	1232	1367	2525

PRICES PAID DURING JUNE.

	1905.	1904.	1903.
Pará fine, hard..	5/ 7 @ 5/ 8	4/ 8 @ 4/ 10 1/4	3/ 10 @ 3/ 11 1/4
Do soft.....	5/ 5 1/4 @ 5/ 8 1/4	4/ 7 1/2 @ 4/ 9 1/2	3/ 10 1/2 @ 4/ 1 1/2
Negroheads, scrappy..	3/ 11 1/2 @ 4/	3/ 7 1/2 @ 3/ 9	3/ 8 1/2 @ 3/ 10
Do Cametá 3/ 3	@ 3/ 4 1/4	2/ 8 1/4 @ 2/ 10 1/4	2/ 11 1/4 @ 3/
Bolivian.....	5/ 7	4/ 8 1/4 @ 4/ 10 1/4	2/ 5 @ 2/ 7 1/4
Caucho, ball.....	3/ 5 1/4 @ 3/ 6	3/ 2 3/4 @ 3/ 4 1/4	2/ 11 @ 2/ 11 1/4
Do slab.....	3/ @ 3/ 0 1/2	2/ 10 @ 2/ 11	2/ 4
Do tails.....	No sales	No sales	No sales

AUCTION SALES REPORT.

JULY 7.—The market for Pará has been quiet with few transactions and closes weak. Small sales of Bolivian fine spot at 5s. 7d. and entre fine at 5s. 5 1/4d.; hard fine Pará spot at 5s. 6 1/2d. @ 5s. 7d.; sellers of forward delivery at lower prices. Cametá sales down to 3s. 1 1/2d. and Islands negroheads at 2s. 11d. At to-day's auction good Colombian was scarce and at fair demand, clean white scrap selling at 3s. 3 1/2d. @

3s. 4 1/4d.; mixed scrap 3s. 2d.; part dirty and soft, 3s. 3d. Mozambique reddish ball part unripe 3s. 10d. Lamu ball 3s. 7d. Madagascar fair to good pinky 3s. 7d. @ 3s. 7 1/2d.; soft pinky Majunga 3s.

PLANTATION RUBBER.

June 23 Auction.—Ceylon and Straits: 32 packages offered and sold. Ceylon fine biscuits, dull to good pale, at 6s. 5d. @ 6s. 7 1/4d. [= \$1.60 3/4]. Straits sheet, darkish to pale, at 6s. 6d. @ 6s. 7 1/4d.; scrap fair to fine clean pale at 5s. 1d. @ 5s. 5 1/4d.; dirty scrap and biscuit at 4s. 3 1/4d. @ 4s. 10d. [Sales of fine hard cure rubber from Pará on spot at 5s. 8d. = \$1.37 1/2.]

July 7 Auction.—Ceylon and Straits: 53 packages offered and only part sold at lower prices for biscuits and sheets. Privately sales have been made of good color at 6s. 3d. @ 6s. 4d. [= \$1.54]; fine clean scrap at 5s. 5 1/4d. @ 5s. 5 1/2d.; and mixed scrap at 4s. 8d. @ 5s. [Sales of fine hard cure rubber from Pará on spot at 5s. 6 1/2d. = \$1.34 1/4.]

Liverpool.

EDMUND SCHLÜTER & Co. report [July 1] the following details of the arrivals of rubber (including Caucho) at Pará during the last two crop years ending June 30:

	Pará.	Caucho.	Total.
In 1904-05..... tons	27,390	5,650	33,040
In 1903-04.....	26,105	4,440	30,545

Increase in 1904-05..... 1,285 1,210 2,495

The world's visible supply of Pará grade on June 30 was:

	1905.	1904.	1903.	1902.	1901.
Tons	2601	2028	3335	*3576	3045

[*Including 200 tons in bankers' hands.]

Price, hard fine..... 5s. 6d. 4s. 9 1/4d. 3s. 11 1/4d. 2s. 11 1/2d. 3s. 9d.

The figures emphasize the fact [say Messrs. Schlüter] to which we have called attention in a previous circular, viz., the proportionately large increase in the production of Caucho and the proportionately small one of Pará. There are probably nowhere, not even in America, sufficiently large reserve stores to allow of any accumulation of supplies for some months to come; hence the value of Pará rubber will remain more or less high, the tendency being in favor of a lessened discount for the distant months as we approach them.

LONDON STOCKS OF AFRICAN RUBBER, JUNE 30.

	1905.....	1904.....	1903.....	1902.....	1901.....
368	543	1899	530		
560	768	1898	368		
371	777	1897	465		

JOSEPH FYNNEY, who for a number of years has been connected with Messrs. Livesey & Co., has severed his relations with that firm and commenced business as an India-rubber merchant under the style of Joseph Fynney & Co., 11, Old Hall street, Liverpool.

Bordeaux.**PRICES [FRANCS PER KILO] JUNE 8.**

Conakry niggers.....	11. @ 11.25	Bassam lumps.....	5.90 @ 6.10
Soudan twists.....	9.50 @ 9.80	Bassam niggers.....	8.50 @ 8.80
Soudan niggers, red..	10.70 @ 11.	M'dg'car—Tamatave	9. @ 9.50
Soudan niggers, white	10.25 @ 10.50	Do Majunga.....	7. @ 8.25
Cassamance A.....	7.80 @ 7.90	Do Morondava.....	8.80 @ 9.10
Cassamance A M....	6.80 @ 6.90	Manicoba.....	8.80 @ 9.10
Java.....	8. @ 10.50	Mexique.....	8.80 @ 9.20
Lahou cakes.....	7.25 @ 7.50	Guayaquil.....	9. @ 9.20
Lahou niggers.....	10.30 @ 10.60	Tonkin block.....	8.50 @ 9.
Lahou twists.....	9.50 @ 9.80	Tonkin red.....	9.75 @ 10.25

Stocks this date about 41,526 kilograms.

R. HENRY, SUCESSEUR.

Lisbon Rubber Arrivals.

YEARS ending June 30. Reported by Martin Weinstein & Co.:

YEARS.	Benguella.	Loanda.	Thimbles.	Other sorts.	Totals.
1904-05..... tons	1885	704	177	51	2817
1903-04.....	1818	909	143	66	2936
1902-03.....	843	1053	103	100	2099
1901-02.....	1206	680	108	98	2092
1900-01.....	1026	733	178	..	1937
1899-00.....	1893	703	293	..	2889
1898-99.....	2100	1002	170	..	3272

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the inscription sale of June 28, out of 263 tons offered, 218 were sold at prices showing an average decline of about 10 centimes (about 1 per cent.) on May figures. Considering the somewhat lower quotations prevailing for Pará sorts, as well as the small demand from manufacturers for that time of the year, the results realized were very satisfactory. Especially fine and well conditioned sorts maintained their values. The United States seemed not to have sent any buying orders worth mentioning. At the inscription sale on July 19 the exceptionally small quantity of 133 tons will be exposed, the most important lots being (with brokers' estimations in francs per kilogram):

25 tons Uelé strips.....	10.75	4 tons Mongalla strips ..	10.25
7 " Batouri.....	10.60	6 " Flangl, red strips...	8.50
6 " Lac Leopold.....	10.75	8 " Upper Congo ball...	11.50

Since July 1 about 327 tons have been sold. Stocks in first hands are about 550 tons. The steamer *Leopoldville* from the Congo has brought about 407 tons.

C. SCHMID & CO., SUCCESEURS.

Antwerp, July 14, 1905.

RUBBER ARRIVALS AT ANTWERP.

JUNE 27.—By the *Leopoldville*, from the Congo:

Bunge & Co. (Société Générale Africaine)	kilos	210,000
Do		11,000
Do	Société A B I R	36,000
Do	(Chemins de fer Grand Lacs)	30,000
Do	(Comité Spécial Katanga)	9,000
Do	(Cie. du Kasai)	90,000
Comptoir Commercial Congolais.....		4,000
Société Générale de Commerce.....	(Alimaïenne)	1,000
Société Coloniale Anversoise.....	(La Lulonga)	2,000
Do	(Belge du Haut Congo)	5,000
Do		700
L. & W. Van de Velde.....		1,000
Cie Commerciale des Colonies.....	(La Haut Sangha)	8,000 407,700

JULY 17.—By the *Philippeville*, from the Congo:

Bunge & Co. (A B I R) kilos	37,000
Do	(Société Générale Africaine) 179,000
Do	(Chemins de fer Grand Lacs) 10,800
Do	(Comité Spécial Katanga) 2,800
Do	(Société "La Kotto") 3,000
Do	(Sultanats du Haut Ubangi) 20,700
Comptoir Commercial Congolais.....	4,200
M. S. Cols. (Société Baniembe)	1,000
Do	(Alima) 3,600

PARA RUBBER VIA EUROPE.

POUNDS

JUNE 26.—By the *Maracas*=Cuidad Bolivar:

Thebaud Brothers (Fine).....	10,000
Thebaud Brothers (Coarse).....	2,500
Middleton & Co. (Coarse).....	2,500 15,000

JUNE 29.—By the *Oceanic*=Liverpool:

A. T. Morse & Co. (Coarse).....	5,000
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JUNE 30.—By the *Seguranea*=Colon:

F. Rosenstein & Co. (Fine).....	1,000
H. D. Evans (Fine).....	1,000
Flint & Co. (Cauché).....	6,500 8,500

JULY 7.—By the *Majestic*=Liverpool:

Poel & Arnold (Cauché).....	43,000
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JULY 20.—By the *Grenada*=Cuidad Bolivar:

Thebaud Brothers (Fine).....	8,500
Thebaud Brothers (Coarse).....	4,500
Middleton & Co. (Fine).....	13,500
Middleton & Co. (Coarse).....	4,500
G. Amsinck & Co. (Coarse).....	6,000 37,000

JULY 22.—By the *Campania*=Liverpool:

New York Commercial Co. (Fine).....	9,000
A. T. Morse & Co. (Coarse).....	4,500 13,500

OTHER ARRIVALS IN NEW YORK.

CENTRALS.

POUNDS.

JUNE 26.—By the *Bayamo*=Tuspan:

H. Marquardt & Co.	2,000
Harburger & Stack.....	800 2,800

JUNE 26.—By the *El Paso*=New Orleans:

Manhattan Rubber Mfg. Co.	2,200
A. T. Morse & Co.	1,300 3,500

JUNE 26.—By the *Altai*=Colon:

D. A. De Lima & Co.	1,500
J. Ferro.....	1,200
Rogers & Heinlein.....	1,000
United Fruit Co.....	700
Isaac Brandon & Bros.	700
A. D. Straus & Co.....	600 5,700

JUNE 27.—By the *Mesaba*=London:

George A. Alden & Co.....	7,000
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JUNE 30.—By the *Seguranea*=Colon:

Meyer Hecht.....	1,200
A. Rosenthals Sons.....	1,600
J. A. Medina & Co.....	600
Isaac Brandon & Bros.	900
Manne & Emdon.....	500 4,300

JULY 1.—By the *Niagara*=Mexico:

Harburger & Stack.....	2,000
Graham Hinkley & Co.....	1,000
E. N. Tibbals Co.....	600
Samuels & Cummings.....	600 4,200

Société Coloniale Anversoise..... (Cie. du Kasai)	98,500
Do	(Sud Kamerun) 3,700
Do	(Belge du Haut Congo) 10,400
Do	700
G. & C. Kreglinger..... (Société La Lobay)	14,000
Société Générale de Commerce..... (Alimaïenne)	2,900
Charles Dethier..... (Société La M'Poko)	10,000
Comptoir des Produits Coloniaux..... (Société "N'Goko")	7,400 409,700

GRISAR & CO., so long established as rubber brokers, announce under date of July 1: "We beg to inform you that we have on this day granted power of attorney for our firm to Mr. Gustave Grisar, son of our partner, Mr. Max Grisar, and for several years a co-worker in our firm."

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

July 5.—By the steamer *Amazonense*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauché.	Total.
New York Commercial Co.	16,100	3,700	16,000	4,000=	39,800
Poel & Arnold.....	.....	.....	52,100	6,100=	58,200
A. T. Morse & Co.....	1,000	.....	36,800	1,000=	38,800
General Rubber Co.....	2,500	400	21,600	8,300=	32,800
Neale & Co.....	9,800	1,300	11,400	.....=	22,500
G. Amsinck & Co.....	7,300	.....	5,000	.....=	12,300
Lionel Hagenauers & Co.	4,700	.....	1,300	.....=	5,900
Hagemeyer & Brunn.....	2,000	1,400	.....	.....=	3,400
Total	43,400	6,800	144,100	19,400=	213,700

July 17.—By the steamer *Cearense*, from Pará:

New York Commercial Co.	13,600	2,600	37,000	.....=	53,200
A. T. Morse & Co.....	400	300	42,300	16,400=	59,400
Poel & Arnold.....	.....	.....	39,400	.....=	39,400
Lawrence Johnson & Co.	4,400	2,300	2,600	.....=	9,300
Hagemeyer & Brunn.....	2,100	.....	3,600	.....=	5,700
General Rubber Co.....	.....	.....	6,300=	.....=	6,300
Total.....	20,500	5,200	144,900	22,700=	173,300

July 24.—By the steamer *Hubert*, from Manáos and Pará:

New York Commercial Co.	53,800	17,100	43,100	3,800=	117,800
A. T. Morse & Co.....	4,900	700	34,200	5,800=	45,600
Poel & Arnold.....	3,600	300	34,100	2,400=	40,400
General Rubber Co.....	600	100	200	37,500=	38,700
G. Amsinck & Co.....	17,800	.....	6,500	.....=	24,300
Neale & Co.....	5,100	600	1,700	.....=	7,400
Lionel Hagenauers & Co.	6,000	.....	1,100	.....=	7,100
Edmund Reeks & Co.....	.....	.....	4,200=	.....=	4,200
Total.....	92,100	18,800	120,900	53,700=	285,500

[NOTE.—The steamer *Dominic*, from Pará, is due at New York, August 4, with 100 tons Rubber.]

JULY 5.—By the *Georgic*=Liverpool:

J. H. Rosbach & Bros.....	23,000
Hirsch & Kaiser.....	10,000 43,000

JULY 5.—By the *Sarnia*=Colombia:

K. Mandell & Co.....	500
Eggers & Heinlein.....	1,500
Roldan Van Sickle.....	1,000
A. S. Lascelles & Co.....	1,000
Isaac Brandon & Bros.....	600 4,600

JULY 5.—By the *Adonae*=Colon:

G. Amsinck & Co.....	11,200
American Trading Co.....	8,600
Lawrence Johnson & Co.....	4,100
E. B. Strout.....	3,700
Roldan & Van Sickle.....	3,100
A. M. Capen Sons.....	3,100
Dumarest Bros. & Co.....	2,700
A. Santos & Co.....	2,100
Mecke & Co.....	1,700
De Soia & Pardo.....	1,300
Charles E. Griffin.....	1,000
Isaac Brandon & Bros.....	900
W. Louiza & Co.....	600
Silva, Bussellus & Co.....	600
Hirzel, Felman & Co.....	500 42,200

JULY 5.—By the *Tintoretto*=Bahia:

Hirsch & Kaiser.....	40,000
J. H. Rosbach & Bros.....	11,500
A. D. Hitch & Co.....	9,000
American Commercial Co.....	11,500 72,000

JULY 6.—By the <i>Seneca</i> =Tampico: For Havre	60,000
JULY 8.—By the <i>Fucatan</i> =Mexico: H. Marquardt & Co.	2,500
Harburger & Stack	2,000
Thebaud Brothers	1,000
E. Steiger & Co.	700
Graham, Hinkley & Co	600
JULY 8.—By the <i>Barbarossa</i> =Bremen: J. H. Rossbach & Bros.	13,500
JULY 9.—By the <i>El Dorado</i> =New Orleans: Manhattan Rubber Mfg. Co.	2,500
G. Amsinck & Co.	1,500
E. B. Strout	1,300
A. N. Rotholz	1,200
JULY 10.—By the <i>St. Louis</i> =London: Hirsch & Kaiser	30,000
J. H. Rossbach & Bros.	15,500
JULY 10.—By the <i>Minnehaha</i> =London: General Rubber Co.	15,500
JULY 12.—By the <i>Alliance</i> =Colon: G. Amsinck & Co.	4,900
J. A. Medina & Co.	3,400
Mann & Emdon	1,600
Eggers & Heinlein	1,300
A. Rosenthal's Sons	1,100
American Trading Co.	1,200
E. B. Strout	700
JULY 13.—By the <i>Alleghany</i> =Colombia: Banco de Exportas.	1,500
G. Amsinck & Co.	1,300
Kunhardt & Co.	800
Punderford & Co.	700
D. A. De Lima & Co.	500
JULY 14.—By the <i>Monterey</i> =Mexico: E. Steiger & Co.	1,500
Harburger & Stack	1,000
H. Marquardt & Co.	1,000
American Trading Co.	500
JULY 17.—By the <i>Proteus</i> =New Orleans: A. T. Morse & Co.	4,500
Manhattan Rubber Mfg. Co.	500
Eggers & Heinlein	500
JULY 17.—By the <i>Minnetonka</i> =London: General Rubber Co.	30,000
JULY 19.—By the <i>Sibiria</i> =Colombia: Lawrence Johnson & Co.	1,300
United Fruit Co.	500
Silva Bussanul & Co.	500
G. Amsinck & Co.	1,000
Pedro A. Lopez	500
European Option	3,500
JULY 21.—By the <i>Carib II</i> =Truxillo: Eggers & Heinlein	9,500
H. W. Peabody & Co.	1,000
JULY 21.—By the <i>City of Savannah</i> =Colon: Hirzel, Feltman & Co.	8,200
G. Amsinck & Co.	7,400
Piza, Nephews & Co.	4,400
Mann & Emdon	2,500
Lawrence Johnson & Co.	2,500
Dumarest Bros. & Co.	1,700
E. B. Strout	1,700
A. Santos & Co.	1,400
A. M. Capen's Sons	1,300
W. E. Grace & Co.	1,200
American Trading Co.	1,100
A. Rosenthal's Sons	1,000
Isaac Kubie & Co.	500
Lanman & Kemp	500
JULY 22.—By the <i>Esperanza</i> =Mexico: E. Steiger & Co.	2,000
E. N. Tibbals & Co.	1,000
W. L. Wadleigh	1,200
George A. Teslar	500
Graham Hinkley & Co.	500
JULY 22.—By the <i>El Monte</i> =New Orleans: A. T. Morse & Co.	2,500
JULY 24.—By the <i>Finance</i> =Colon: Hirzel, Feltman & Co.	5,500
Mann & Emdon	1,500
G. Amsinck & Co.	1,000
E. B. Strout	600
A. T. Morse & Co.	8,600
A. W. Brunn	2,500

AFRICANS.

JUNE 26.—By the <i>Celtic</i> =Liverpool: Wallace L. Gough	11,500
JUNE 27.—By the <i>Zeeland</i> =Antwerp: Rubber Trading Co.	3,500
JUNE 29.—By the <i>Oceanic</i> =Liverpool: Rubber Trading Co.	9,000
A. W. Brunn	2,500

JUNE 30.—By the <i>Graf Waldsees</i> =Hamburg: Rubber Trading Co.	30,000
Poel & Arnold	10,000
JULY 3.—By the <i>La Gascoyne</i> =Havre: George A. Alden & Co.	11,500
General Rubber Co.	5,500
JULY 3.—By the <i>Umbria</i> =Liverpool: Poel & Arnold	65,000
JULY 5.—By the <i>Peninsula</i> =Lisbon: Poel & Arnold	45,800
General Rubber Co.	44,000
JULY 8.—By the <i>Batavia</i> =Hamburg: A. T. Morse & Co.	11,500
JULY 8.—By the <i>La Sarote</i> =Havre: George A. Alden & Co.	7,000
Poel & Arnold	4,500
JULY 8.—By the <i>Lucania</i> =Liverpool: George A. Alden & Co.	6,000
A. T. Morse & Co.	2,500
JULY 11.—By the <i>Vaderland</i> =Antwerp: Poel & Arnold	35,000
JULY 13.—By the <i>Pennsylvania</i> =Hamburg: Poel & Arnold	22,000
A. T. Morse & Co.	25,000
George A. Alden & Co.	9,000
JULY 14.—By the <i>Cedric</i> =Liverpool: General Rubber Co.	45,000
Rubber Trading Co.	2,500
JULY 17.—By the <i>La Bretagne</i> =Havre: General Rubber Co.	27,000
JULY 17.—By the <i>Etruria</i> =Liverpool: George A. Alden & Co.	11,500
Wallace L. Gough	9,000
A. W. Brunn	2,500
JULY 18.—By the <i>Kroonland</i> =Antwerp: George A. Alden & Co.	55,000
Winter & Smille	9,000
JULY 21.—By the <i>Baltic</i> =Liverpool: A. T. Morse & Co.	27,000
Joseph Cantor	3,500
JULY 21.—By the <i>Rhaetia</i> =Hamburg: A. T. Morse & Co.	22,500
JULY 22.—By the <i>Campania</i> =Liverpool: Henry A. Gould Co.	4,500
EAST INDIAN. JUNE 24.—By the <i>Crosta</i> =Calcutta: George A. Alden & Co.	8,500
JUNE 27.—By the <i>Mesaba</i> =London: George A. Alden & Co.	7,500
Wallace L. Gough	2,000
JUNE 28.—By the <i>Schuykill</i> =Singapore: Poel & Arnold	22,500
Robert Brans & Co.	22,500
Rubber Trading Co.	10,000
George A. Alden & Co.	15,000
Heabler & Co.	30,000
Winter & Smille	33,000
Wallace L. Gough	5,000
JULY 3.—By the <i>Umbria</i> =Liverpool: Poel & Arnold	4,500
JULY 5.—By the <i>Gordon Castle</i> =Calcutta: Poel & Arnold	13,000
A. T. Morse & Co.	7,000
JULY 7.—By the <i>Lowther Castle</i> =Singapore: Poel & Arnold	34,000
Robert Brans & Co.	25,000
JULY 12.—By the <i>Hudson</i> =Singapore: Poel & Arnold	30,000
Pierre T. Betts	22,000
JULY 15.—By the <i>Philadelphia</i> =London: Poel & Arnold	4,500
JULY 17.—By the <i>Indrani</i> =Singapore: Pierre T. Betts	7,000
JULY 19.—By the <i>Crosby Hall</i> =Calcutta: George A. Alden & Co.	3,000
Poel & Arnold	2,500
JULY 21.—By the <i>Carpathia</i> =Liverpool: Poel & Arnold	2,500
GUTTA-JELUTONG. JUNE 28.—By the <i>Schuykill</i> =Singapore: Poel & Arnold	290,000
George A. Alden & Co.	260,000

Pierre T. Betts	190,000
Wallace L. Gough	300,000
Robinson & Taliman	150,000
Rubber Trading Co.	70,000
Windmuller & Reolker	110,000
Heabler & Co.	195,000
J. W. Phyle & Co.	100,000
Robert Brans & Co.	50,000
JULY 7.—By the <i>Lowther Castle</i> =Singapore: Robert Brans & Co.	240,000
Heabler & Co.	250,000
George A. Alden & Co.	200,000
Pierre T. Betts	170,000
Poel & Arnold	150,000
JULY 12.—By the <i>Hudson</i> =Singapore: Heabler & Co.	210,000
J. W. Phyle & Co.	200,000
Robinson & Taliman	200,000
Poel & Arnold	135,000
Wallace L. Gough	135,000
George A. Alden & Co.	75,000
JULY 17.—By the <i>Indrani</i> =Singapore: Robert Brans & Co.	165,000
J. W. Phyle & Co.	150,000
George A. Alden & Co.	85,000
Robinson & Taliman	85,000

GUTTA-PERCHA AND BALATA.

JUNE 28.—By the <i>Schuykill</i> =Singapore: Winter & Smille	6,000
JUNE 30.—By the <i>Waldsee</i> =Hamburg: To Order	7,000
JULY 7.—By the <i>Lowther Castle</i> =Singapore: George A. Alden & Co.	30,000
JULY 8.—By the <i>Batavia</i> =Hamburg: To Order	13,500
JULY 13.—By the <i>Pennsylvania</i> =Hamburg: To Order	7,000
JULY 17.—By the <i>Indrani</i> =Singapore: D. Brandt & Co.	13,000
JULY 21.—By the <i>Rhaetia</i> =Hamburg: John Kronke	6,500
BALATA. JUNE 30.—By the <i>Parina</i> =Demerara, etc.: Charles F. Shilstone	3,500
Frame & Co.	2,500
Maitland, Coppell & Co.	1,500
JULY 3.—By the <i>Umbria</i> =Liverpool: Henry A. Gould	8,000
JULY 11.—By the <i>Ryndam</i> =Rotterdam: George A. Alden & Co.	2,000
JULY 19.—By the <i>Korona</i> =Demerara: Charles F. Shilstone	6,000
JULY 20.—By the <i>Grenada</i> =Cuidad Bolivar: Thebaud Brothers	15,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JUNE.

Imports:	POUNDS.	VALUE.
India-rubber	3,552,129	\$2,500,887
Gutta-percha	54,040	21,337
Gutta-jelutong (Pontianak) ..	1,898,952	63,242
Total	5,505,121	\$2,585,466
Exports:		
India-rubber	81,571	\$63,277
Reclaimed rubber	441,568	46,562
Rubber Scrap Imported	722,835	\$49,191

BOSTON ARRIVALS.

	POUNDS.
JUNE 3.—By the <i>Sachem</i> =Liverpool: George A. Alden & Co.—African....	12,330
JUNE 13.—By the <i>Deponian</i> =Liverpool: George A. Alden & Co.—African....	16,792
JUNE 21.—By the <i>Canadian</i> =Liverpool: George A. Alden & Co.—African....	24,067
JUNE 30.—By the <i>Invernia</i> =Liverpool: J. E. Odell.—African	4,425
Total	58,214

[Value, \$40,191.]

EXPORTS OF INDIA-RUBBER FROM PARA AND MANAOS (IN KILOGRAMS).
(INCLUDING IQUITOS) DURING THE FIRST HALF OF 1905

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Schrader & Co. }											
Dusendschön & Co. }											
Adelbert H. Alden.....	1,231,127	338,542	708,991	392,781	2,671,441	2,102,337	238,813	555,832	1,264,202	4,161,184	6,832,625
Witt & Co.....	1,332,386	329,840	718,107	246,139	2,626,472	447,880	77,878	148,271	177,905	851,934	3,478,406
Da Costa & Co.....	692,096	157,980	231,572	375,809	1,457,457	550,565	93,030	165,117	309,163	1,117,875	2,575,332
Gordon & Co.....	98,154	18,159	389,422	67,126	572,861	268,536	26,376	173,077	218,766	687,655	1,260,516
Neale & Staats.....	495,134	98,001	145,084	243,235	981,454	—	—	—	—	—	981,454
J. Marques & Co.....	185,132	31,648	208,124	12,338	437,242	182,317	30,933	60,782	227,892	501,924	939,166
R. Suarez & Co.....	93,723	3,400	116,611	6,254	219,988	176,179	7,253	92,379	28,255	304,066	524,054
F. C. Arana.....	—	—	—	51	100,940	349,770	2,400	61,631	41,067	454,868	454,868
Pires, Teixeira & Co.....	68,963	—	49,595	—	118,558	20,583	3,256	3,992	106,993	134,824	235,815
J. H. Andresen, Successors.....	13,608	4,353	6,749	8,058	32,768	75,641	123	31,661	2,216	109,641	225,199
S'hurst Brocklehurst & Co. }	—	—	2,700	—	2,700	62,029	25,043	31,981	28,791	147,844	180,612
Brocklehurst & Co. }	—	—	—	—	—	99,350	7,503	12,966	40,115	159,934	162,634
Kahn, Polack & Co.....	—	—	—	—	—	70,836	13,340	37,796	44,815	166,787	166,787
Kanthack & Co.....	18,537	6,625	7,813	21,959	54,934	19,546	1,615	6,515	930	28,606	83,540
Denis Cronan & Co.....	—	—	—	—	—	32,758	8,723	10,555	5,003	57,039	57,039
J. A. Mendes & Co.....	3,267	336	45,696	—	49,299	—	—	—	—	—	49,299
Marius & Levy.....	—	—	—	—	—	13,790	2,465	2,258	26,233	44,746	44,746
Luiz Schill & Sobrinhos.....	—	—	—	—	—	25,333	5,102	8,183	3,655	42,273	42,273
B. A. Antunes & Co.....	591	730	655	11,763	13,739	1,280	320	1,320	17,726	20,646	34,385
Reeks & Astlett.....	8,480	1,440	1,920	4,889	16,729	—	—	—	—	—	16,729
Sundry small shippers.....	17,287	4,870	8,718	—	30,875	39,630	1,996	9,176	28,116	78,918	109,793
Direct from Iquitos.....	6,233	169	11,351	10,409	28,162	247,618	22,488	279,655	726,383	1,276,144	1,304,306
Total January-June, 1905.	4,264,718	996,093	2,653,159	1,501,700	9,415,670	4,785,978	568,657	1,694,047	3,298,226	10,346,908	19,762,578
Total January-June, 1904.	4,195,045	919,923	2,700,556	1,090,398	8,905,922	3,902,150	507,925	1,437,106	2,561,609	8,408,790	17,314,712
Total January-June, 1903.	4,073,517	1,038,149	2,726,135	1,036,078	8,873,879	4,803,518	589,529	1,328,363	2,282,155	9,003,565	17,877,444
Total January-June, 1902.	3,871,260	967,250	2,351,918	994,532	8,184,960	4,511,911	903,549	1,405,646	1,567,998	8,449,104	16,634,064
Total January-June, 1901.	4,868,612	1,131,774	2,401,598	1,111,084	9,513,068	3,353,916	732,916	1,408,662	1,980,886	7,476,380	16,989,448

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1905.....	3,532,513	219,213	3,313,300	May, 1905.....	6,079,584	2,590,784	3,488,800
January-April.....	32,606,023	1,134,713	31,471,310	January-April.....	21,776,608	12,835,096	8,941,512
Five months, 1905.....	36,138,536	1,353,926	34,784,610	Five months, 1905.....	27,856,192	15,425,880	12,430,312
Five months, 1904.....	31,994,423	1,461,909	30,532,514	Five months, 1904.....	26,208,896	15,310,070	10,898,826
Five months, 1903.....	25,215,766	1,355,007	23,860,759	Five months, 1903.....	24,886,400	17,354,512	7,531,888
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1905.....	4,108,500	1,239,040	2,869,460	May, 1905.....	200,640	46,640	154,000
January-April.....	14,879,480	4,874,540	10,004,940	January-April.....	533,280	70,400	462,880
Five months, 1905.....	18,987,980	6,113,580	12,874,400	Five months, 1905.....	733,920	117,040	616,880
Five months, 1904.....	15,022,260	4,284,280	10,737,980	Five months, 1904.....	738,100	49,280	688,820
Five months, 1903.....	16,059,120	6,089,820	9,969,300	Five months, 1903.....	812,020	26,400	785,620
FRANCE.*				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
May, 1905.....	2,142,140	1,185,580	956,560	May, 1905.....	337,920	9,680	328,240
January-April.....	10,216,580	5,599,000	4,617,580	January-April.....	980,760	2,860	977,900
Five months, 1905.....	12,358,720	6,784,580	5,574,140	Five months, 1905.....	1,318,680	12,540	1,306,140
Five months, 1904.....	9,274,320	5,946,820	3,327,500	Five months, 1904.....	1,273,580	10,340	1,263,240
Five months, 1903.....	6,804,160	3,879,480	2,924,680	Five months, 1903.....	1,294,700	12,320	1,282,380
BELGIUM.†				NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.				
May, 1905.....	1,109,642	1,242,245	[‡ 132,603]				
January-April.....	6,272,223	4,076,729	2,195,494				
Five months, 1905.....	7,381,865	5,318,974	2,062,891				
Five months, 1904.....	7,963,093	6,306,161	1,656,932				
Five months, 1903.....	6,513,084	4,902,935	1,610,149				

* General Commerce.

† Special Commerce.

‡ Net Exports.

